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THE FECUNDITY OF THE NATIVE AND
FOREIGN BORN POPULATION IN
MASSACHUSETTS.

I.

MARRIAGE-RATES AND CONJUGAL CONDITION.

THE small fecundity of the native and foreign born population in Massachusetts is a problem which of late years has attracted the attention of both official and private statisticians in the United States.* It has also been discussed in Europe, and especially in France,† which country, by reason of its own small propagation, makes in its demological studies, a specialty of the general subject of human fecundity. In view of this, any further treatment of the subject may seem superfluous. But a study of the literature in question shows that the material per-

* Cf., for instance, Samuel W. Abbott, "Vital Statistics of Massachusetts. A Forty Years' Summary," *Twenty-eighth Annual Report of the State Board of Health of Massachusetts*, pp. 711-829.

† Arsène Dumont, "Essai sur la natalité en Massachusetts," *Journal de la société statistique de Paris*, 1897, pp. 332-353, 385-395; 1898, pp. 64-69.

taining to the subject and gathered in the official statistical publications—i.e., in the census volumes and registration reports—is far from being exhausted, and that the question has not yet been taken up with a sufficient regard for the elements of statistical method. While the following investigation, then, claims to cover a wider field than its predecessors, its scope may be defined at the start. In regard to nativity, it will entirely ignore the parentage of the native and foreign born population. Local and social divisions, such as single counties, various agglomeration groups, different classes of occupations, will not be considered. The reasons for this restriction are that the data as published give but a fragmentary insight into these details, and that even a partial consideration would unduly extend the scope of this paper. As regards time, in order that only fairly reliable data may be used, it being of course necessary to pay particular attention to the statistics of births, only those records will be analyzed which were issued after the “act to compel a more accurate registration of births,” approved February 26, 1880, could have become effective.* The present study will begin, then, with a short review of the population in Massachusetts according to nativity and place of birth, then treat the marriages and the conjugal condition of the population, then, as a consequence of these, the births, and the number of children born to every mother. In the pages following a short glance will be taken at the mortality and the number of children surviving for every mother. Finally, some conclusions will be drawn about the propagation of the population.

*The system of registration introduced in the Colony of Massachusetts Bay in 1639-44 prevailed until 1880. Under this system, knowledge of the births was secured by the duty imposed on the householders to give notice to the town clerk of the births occurring in their family. (Cf. my paper, “The Registration Laws in the Colonies of Massachusetts Bay and New Plymouth,” in *Quarterly Publications of the American Statistical Association*, September, 1900.) The Act of 1880 provided that the reports be made by the physicians and midwives, and secured thus more complete returns than were obtained before.

I. THE POPULATION.

It may be stated at the outset that the distinction between native and foreign born population by no means refers to any race difference. The population of Massachusetts, having, like that of every state in the Union, grown partly by immigration, the term "native population" is but a relative one, including, as it does, those persons born in Massachusetts whose parents came from a foreign country. With this understanding of the term a statement of the two classes of population in Massachusetts will now be introduced.

Table I. gives the native and foreign born population of Massachusetts by sex for the three censuses of 1885, 1890, and 1895. It would be easy to follow both populations farther back; but, owing to the above-mentioned restriction in regard to vital statistics, they would not be of use in this connection.

TABLE I.
POPULATION BY SEX AND NATIVITY, 1885, 1890, 1895.

NATIVITY.	1885*		1890†		1895‡	
	Males.	Females.	Males.	Females.	Males.	Females.
Native . .	688,284	726,990	773,853	807,953	848,312	886,941
Foreign . .	244,600	282,267	313,856	343,261	366,389	398,541
State . . .	932,884	1,009,257	1,087,709	1,151,234	1,214,701	1,285,482

Table II. shows the population by sex and country of birth at the two censuses of 1885 and 1895. The figures

* *Census of Massachusetts, 1885, vol. i., part 1, p. lv* (hereafter referred to as *Census of 1885*).

† *Report on Population of the United States at the Eleventh Census 1890, part 1, p. 486* (hereafter referred to as *Census of 1890*).

‡ *Census of Massachusetts, 1895, vol. ii. p. 225* (hereafter referred to as *Census of 1895*).

are given for the population born in Massachusetts, in the other five New England states, in the other states and territories of the Union, and for every foreign country which in 1885 had more than 4,000 inhabitants in Massachusetts; i.e., more than one-fifth per cent. of the entire population of the state. This division agrees with that observed in the few published tables of vital statistics given separately for the different countries of birth. It was not possible to give the same figures for 1890, as the Federal census does not give the data separately for the sexes.

TABLE II.

POPULATION BY SEX AND COUNTRY OF BIRTH, 1885, 1895.

COUNTRY OF BIRTH.	1885*		1895†	
	Males.	Females.	Males.	Females.
Massachusetts	548,556	568,884	671,444	694,544
Other New England states	101,821	114,904	118,659	129,772
Other states	37,907	43,202	58,209	62,625
English Canada	6,993	8,866	26,385	29,076
French Canada	32,621	31,882	55,271	54,492
Nova Scotia	17,346	23,493	20,804	27,821
Prince Edward Island	2,677	4,132	3,613	5,732
New Brunswick	6,662	9,787	8,709	11,829
England	29,150	27,774	41,613	40,387
Scotland	7,944	8,026	12,074	12,480
Ireland	105,757	138,872	110,626	147,621
Germany	12,757	10,358	16,653	14,498
Sweden	4,844	4,592	14,651	13,890
Portugal	3,431	2,687	7,318	5,980
Other countries	14,418	11,798	48,672	34,765

Table III. gives the total native and foreign born population shown by the three censuses of 1885, 1890, and 1895, the proportion of the native and foreign born at the three enumerations, and the increase of both classes and

* Calculated from *Census of 1885*, vol. i., part 1, p. 574.

† Calculated from *Census of 1895*, vol. ii. pp. 704-707.

of the entire population in the periods between the censuses.*

The increase of the natives as well as that of the foreign born was larger from 1885 to 1890 than from 1890 to 1895. The natives show in both periods a smaller increase than the foreign born, the first being for the decennial period 22.6 per cent., the second 45.2 per cent., or exactly twice as much; while the increase for the entire population of the state was 28.7 per cent. The proportion which the foreign born make of the total population shows a corresponding increase from census to census, the proportions being 27.1 per cent. in 1885, 29.4 in 1890, and 30.6 in 1895.

Table IV. gives as far as possible the same figures for the different countries of birth. The data given for 1890 are defective, because the subdivision made in the federal census does not agree with that observed in the state censuses.

Among the different countries of birth, the population born in English Canada had the largest increase in the decennial period, the population in 1895 being three and one-half times as large as in 1885 (increase, 250 per cent.). The population born in the countries not specified and in Sweden also underwent a very high increase, the population of both groups being in 1895 more than three times as large as that in 1885 (increase, 218 and 202 per cent., respectively). Portugal was the only state besides these three which showed in its population living in Massachusetts an increase larger than 100 per cent. (117). The increase was less than for the total population of the state (29 per cent.) in the case of persons born in New Brunswick (25), Massachusetts (22), Nova Scotia (19), the

* The increase rates in the following tables will of course show only the changes in the relative importance of the different classes of nativity from census to census. They do by no means indicate the real increase between the censuses, since all the children born in the state between any two censuses and surviving at the latter one are counted among the natives of Massachusetts.

TABLE III
POPULATION BY NATIVITY, 1885, 1890, 1895. INCREASE, PROPORTION.

NATIVITY.	Total population.			Increase in per cent.				Proportion.		
	1885	1890	1895	1885-90	1890-95	1885-95		1885	1890	1895
Native	1,415,274	1,581,806	1,735,253	11.8	9.7	22.6		72.87	70.65	69.41
Foreign	526,567	657,137	764,930	24.7	16.4	45.2		27.13	29.35	30.59
State	1,942,141	2,238,943	2,500,183	15.3	11.7	28.7		100.00	100.00	100.00

TABLE IV.
POPULATION BY COUNTRY OF BIRTH, 1885, 1890, 1895. INCREASE, PROPORTION.

COUNTRY OF BIRTH.	Total population.			Increase in per cent.				Proportion.		
	1885 ^a	1890†	1895†	1885-90	1890-95	1895-05		1890	1895	1895
Massachusetts	1,117,440	1,256,408	1,365,988	12.4	8.7	32.2		56.12	57.54	54.64
Other New England states	216,795	225,573	248,431	4.1	10.1	14.5		10.07	11.16	9.94
Other states	81,109	99,825	130,834	23.1	21.0	49.0		4.46	4.17	4.83
English Canada	15,859	—	55,461	—	—	249.7		—	.82	2.22
French Canada	64,503	—	109,763	—	—	70.2		—	3.32	4.39
Nova Scotia	40,839	—	48,695	—	—	19.1		—	2.10	1.94
Prince Edward Island	6,809	—	9,345	—	—	37.2		—	.35	.37
New Brunswick	16,449	—	20,538	—	—	24.9		—	.85	.82
England	56,924	76,400	81,970	34.2	7.3	44.0		3.41	2.93	3.18
Scotland	15,970	21,909	24,554	37.2	12.1	53.8		.82	.82	.98
Ireland	244,629	269,902	288,247	6.2	.6	5.6		11.61	12.60	10.33
Germany	23,115	28,034	31,151	21.3	11.1	34.8		1.19	1.25	1.25
Sweden	9,436	18,624	28,541	97.4	53.2	202.5		.49	.49	.83
Portugal	6,118	8,024	13,298	31.2	63.7	117.4		.31	.31	.36
Other countries	26,216	—	83,437	—	—	218.3		—	1.35	3.34

^a Cf. p. 4, note 1.

† Census of 1890, part 1, pp. 606-609.

‡ Cf. p. 4, note 2.

other New England states (15), and especially of those born in Ireland (6).

At the three censuses the population born in Massachusetts amounted to more than one-half of the population of the state, the proportion decreasing from 57.5 per cent. in 1885 to 56.1 in 1890 and 54.6 in 1895. The second group in importance was Ireland, which in 1885 had more than one-eighth of the whole population (12.6 per cent.), while in 1895 it had not much more than one-tenth (10.8 per cent.). The third group was formed by the other New England states, which in the same way show a steady relative decrease from one-ninth in 1885 (11.2 per cent.) to one-tenth in 1895 (9.9 per cent.). These three groups contained in 1885 more than four-fifths of the entire population (81.3 per cent.), while in 1895 their share was slightly less than three-fourths (74.9 per cent.). As every other group had at each of the three censuses less than 5 per cent. of the entire population, we shall not dwell further on their respective proportions.

II. NUPTIALITY.

1. *Marriages.*

In every country, and especially in a state like Massachusetts where, as will be seen later, the number of children born out of wedlock is but small, the marriages exert the greatest influence upon the births. The way to calculate the intensity of marriages is to compute marriage-rates; *i.e.*, to compare the number of marriages with the population. There are different ways of computing marriage-rates. The official statistics of Massachusetts use two: they compare the marriages occurring in the year the census was taken with the results of the census. Or they compare the marriages of every year with an estimated population for the same years, distributing the increase between two censuses in an arithmetical or in a geometrical progression. Both

methods have their weak points. The first, while theoretically correct, is open to the objection that annual variations may affect the conclusiveness of the results. The second is more or less arbitrary, since the increase of population is neither absolutely nor relatively the same in the single years lying between two censuses. Both errors seem to be avoided by comparing the annual average of the marriages of every five years next the census with the population found at the census. As the following study will embrace only the period after the law of 1880 could become effective, only those marriages will be treated which occurred in the years 1883 to 1897 inclusive.

Table V. gives the marriages for the fifteen years and for the three quinquennial periods.

TABLE V.
MARRIAGES BY NATIVITY, 1883-97.*

Year.	Couples.	American.	Foreign.	Am. males. For. females.	For. males. Am. females.	Unknown.
1883	18,794	10,002	4,754	1,818	1,610	10
1884	17,333	9,167	4,743	1,881	1,539	3
1885	17,052	9,073	4,526	1,882	1,565	6
1886	18,018	9,272	5,028	2,014	1,700	4
1887	19,533	9,738	5,669	2,256	1,867	3
1888	19,739	9,481	6,043	2,298	1,908	9
1889	20,397	9,574	6,418	2,471	1,931	3
1890	20,838	9,607	6,564	2,494	2,158	15
1891	21,675	9,943	7,018	2,504	2,201	9
1892	22,507	10,032	7,647	2,558	2,269	1
1893	22,814	10,029	7,869	2,635	2,274	7
1894	20,619	9,163	6,937	2,408	2,110	1
1895	23,102	10,292	7,690	2,723	2,394	3
1896	23,651	10,401	7,920	2,839	2,494	4
1897	23,038	10,049	7,810	2,784	2,389	6
1883 -87	90,130	47,252	24,720	9,851	8,281	26
1888 -92	105,156	48,637	33,690	12,325	10,467	37
1893 -97	113,224	49,934	38,226	13,382	11,661	21

*Annual Report of Births, Marriages, and Deaths in Massachusetts, vols. xlii.-lvi., Table I. (hereafter referred to as *Registration Report*).

In Table VI. the average annual number of natives and foreign born marrying in the three quinquennial periods are compared with the population found at the censuses (see Table I.). The persons marrying whose nativity was unknown are distributed between the natives and foreign born in the proportion of the cases known.

TABLE VI.
GENERAL MARRIAGE-RATES OF THE NATIVE AND FOREIGN BORN.
PERSONS MARRIED.

NATIVITY.	1883-87	1888-92	1893-97
Native	112,669	120,108	124,934
Foreign	67,591	90,204	101,514
State	180,260	210,312	226,448

ANNUAL MARRIAGE-RATES.

NATIVITY.	1883-87	1888-92	1893-97
Native	15.92	15.19	14.40
Foreign	25.66	27.45	26.54
State	18.56	18.79	18.11

If the marriages of the natives are compared with the whole native population, and the marriages of the foreign born with the whole foreign born population, it will be found that the general marriage-rates differ widely, the rate for the foreign born being much in excess. This difference is still increasing, the marriage-rate of the natives showing a decrease from period to period, while the opposite result appears in the figures of the foreign born. It would throw a clearer light upon the matter if the different countries of birth could be distinguished for the natives as well as the foreign born. Now it is not pos-

sible to make that comparison for the whole period, the countries of birth of those marrying being published only for the three years 1887, 1888, 1889. The figures for these years are given in Table VII.

There now arises the difficulty of finding the state of the population at a date appropriate for comparison with these marriages. The ideal would be the population in the middle of 1888, but that is unknown. The census next to this date — *i.e.*, the census of 1890 — is not applicable, as the classification of the countries of birth made by the federal census does not agree with the classification adopted in the registration reports of the state.* Recurrence must then be made to the state census of 1885. In Table IV., column 1, the population of Massachusetts is given in 1885 classified by place of birth. The same classification of the population in 1895, and as far as possible in 1890, together with the rate of increase, is given in the following columns. The annual marriage-rates for the different countries of birth are given in Table VIII., column 1. The 160 persons marrying whose nationality was unknown — they constitute but .13 per cent. of the total — have been neglected. The marriage-rate of the natives is found to be 16.6 per cent., and that of the foreign born 30.9, while that for the state is 20.5. The differences between the marriage-rates of the different countries of birth are still greater. They vary from 14.4 per mille for Massachusetts to 72.3 per mille for Sweden. If Massachusetts with its abnormally low rate is omitted, the next lowest rate, that for Ireland, is still found to be as low as 22.0. Now it must be remembered that the population of 1885, which was chosen as a basis, had changed more or less by 1888; and, if it is safe to judge from the results of the censuses of 1890 and 1895, it had increased for every country of birth. This increase, however, was very unequal, as has been seen from Table IV. The increase of the

* *Cf.* p. 5.

TABLE VII.
MARRIAGES BY COUNTRY OF BIRTH, 1887-89.*

COUNTRY OF BIRTH.	Grooms.			Brides.			Grooms.	Brides.	Married.
	1887	1888	1889	1887	1888	1889	1887-89	1887-89	
Massachusetts	7,911	7,865	7,887	8,370	8,168	8,300	23,663	24,738	48,401
Other New England states	2,888	2,717	2,867	2,244	2,257	2,350	8,472	6,851	15,323
Other states	1,192	1,195	1,291	976	955	948	3,678	2,879	6,557
English Canada	319	349	348	296	324	397	1,016	1,017	2,033
French Canada	1,003	964	1,012	966	906	1,000	2,979	2,872	5,851
Nova Scotia	780	813	832	1,079	1,041	1,111	2,425	3,231	5,656
Prince Edward Island	132	165	168	227	276	243	465	746	1,211
New Brunswick	329	333	381	478	439	443	1,043	1,360	2,403
England	872	976	1,000	788	782	858	2,548	2,398	5,246
Scotland	211	246	275	195	240	267	732	702	1,434
Ireland	2,507	2,532	2,534	2,773	2,904	2,921	7,573	8,598	16,171
Germany	349	372	406	263	292	334	1,127	889	2,016
Sweden	300	324	393	306	329	395	1,017	1,030	2,047
Portugal	189	194	217	156	158	182	500	496	996
Other countries	543	680	777	416	616	702	2,000	1,733	3,733
Unknown	8	14	9	31	52	46	31	129	160
Native	11,991	11,777	12,043	11,590	11,380	11,498	35,813	34,458	70,271
Foreign	7,534	7,948	8,343	7,912	8,307	8,853	23,825	25,072	48,897
State	19,533	19,739	20,397	19,533	19,739	20,397	59,669	59,669	119,358

* Calculated from *Registration Report*, vol. xlii. pp. 22-39; vol. xlii. pp. 36-43; vol. xliii. pp. 36-43. These figures agree with the totals published in vol. xlii. p. 170 L.; with those in vol. xlii. p. 162 (excepting the total for Swedish brides, which is 1 too great); and with those in vol. xliii. p. 162.

FECUNDITY OF THE MASSACHUSETTS POPULATION 13

population for every country from 1885 to 1888 may be assumed to be three-fifths the increase of the period 1885 to 1890, and, for the cases where the population of 1890 is unknown, three-tenths the increase of 1885 to 1895. The marriage-rates thus corrected are given in Table VIII., column 2.

TABLE VIII.
MARRIAGE-RATES BY COUNTRY OF BIRTH, 1887-89.

COUNTRY OF BIRTH.	Annual general marriage-rate, 1887-89.		Annual marriage-rate of the adult males, 1887-89.		Annual marriage-rate of the adult females, 1887-89.	
	To 1885.	Corrected (1888).	To 1885.	Corrected (1888).	To 1885.	Corrected (1888.)
Massachusetts	14.4	13.4	30.5	28.5	23.2	22.1
New England States . .	23.6	23.0	34.3	32.5	22.0	21.2
Other states	26.9	23.4	47.2	39.4	26.3	23.2
English Canada	42.7	24.4	63.8	33.1	42.5	25.0
French Canada	30.2	25.0	44.3	35.9	35.5	29.3
Nova Scotia	46.2	43.7	59.2	54.9	49.8	46.9
Prince Edward Island .	59.3	53.3	74.2	65.9	65.3	58.2
New Brunswick	48.7	45.3	69.0	62.4	51.2	48.1
England	30.7	25.5	40.7	35.4	31.9	28.0
Scotland	29.9	24.5	37.2	32.0	32.1	27.5
Ireland	22.0	21.2	25.7	25.2	21.1	20.6
Germany	29.1	25.8	34.4	31.3	31.6	28.0
Sweden	72.3	45.6	84.5	51.7	84.0	51.4
Portugal	54.3	45.7	57.5	43.4	65.4	48.7
Other countries	47.5	28.7	56.5	32.9	55.3	35.7
Native	16.6	15.5	32.6	30.3	23.2	22.0
Foreign	30.9	26.9	38.5	33.4	31.7	28.3
State	20.5	18.6	34.7	31.4	26.1	24.3

The rates for natives and foreign born are now 15.5 and 26.9 respectively, and for the state 18.6, in each case a result lying between the results found for the quinquennial periods 1883-87, and 1888-92. The rate for Massachusetts is still the lowest; but it must be noted that the other natives, those born in the other New England states as well as those born in other states and territories of the

Union, also show very low rates, hardly exceeding, in fact, the rate of the population born in Ireland. The highest rate is found for Prince Edward Island, then for Portugal, Sweden, New Brunswick, and Nova Scotia. The other countries show rates more or less similar to the general average.

If the countries are combined in eight groups, the lowest rate is found for Massachusetts (13.4), then for Ireland (21.2); the other native born (23.2); Canada, (24.8); England, Scotland, Germany (25.4); the countries not specified (28.7); Nova Scotia, Prince Edward Island, New Brunswick (45.2); Sweden and Portugal (45.8). The foreign born other than the Irish have a marriage-rate of 81.1.

Now the foreign born as well as the natives not born in Massachusetts are a population which has immigrated to this State. But amongst immigrants the number of children — i.e., the class of persons which naturally and by law are forbidden to marry — is but small. So, other things being equal, those born outside of Massachusetts would show a higher marriage-rate than the natives of the state. To obtain comparative values, the population under twenty years in the case of males and under fourteen in the case of females may be deducted from the population, both native and foreign born of the respective sexes. These deductions are not entirely correct, as amongst the grooms there are some of less than twenty, and among the brides a very few of less than fourteen years. These, however, were only exceptions, and of such small importance that they may safely be ignored.*

* In the years 1883-1887 there were respectively 320, 314, 350, 336, and 374 grooms under twenty years; in all, 1,694, or 1.88 per cent. of the 90,074 grooms of whom the age was known. In the years 1888-92 there were 368, 411, 376, 398, and 427 grooms under twenty years; in all, 1,980, or again 1.88 per cent. of the 105,125 grooms with age known. And in the years 1893-97 there were 441, 377, 401, 417, 352 grooms under twenty years; in all, 1,988, or 1.76 per cent. of the 113,221 grooms of whom the age was known. The grooms under twenty years are found especially among the French Canadians. While the

The result of the comparison of the persons marrying with the adult population thus found is given in Table IX.

The special marriage-rate of the natives was declining for both sexes from period to period, and particularly from 1883-87 to 1888-92. This decrease is especially great for the male sex. For the foreign born there was, for both sexes, an increase from 1883-87 to 1888-92, followed by a decrease from 1893-97. The changes in the special marriage-rates of the foreign born males were but slight. The rate for 1893-97 is the same as for 1883-87. For the female sex the increase from 1883-87 to 1888-92 was very large, much greater than the decrease from 1888-92 to 1893-97; so that, on the whole, the marriage-rate of the foreign born women exhibits a small increase. Comparing the marriage-rates of the foreign born and natives in the first period, the difference between the rates of the males was but small. For the years 1883-87 the natives had about the same marriage-rate as the foreign born, the rates being 31.2 per mille and 32.0 per mille; but in the next period the rate decreased very decidedly for the native born, and increased not inconsiderably for the foreign born, so that the difference became very large. It was not diminished in the next period, as both for the native and foreign born there was a similar decrease. In 1888-92 and 1883-97 the special marriage-rates for the natives were 28.9 and 27.5, for the foreign born 33.5 and 32.0. The native women show already in the first period a much smaller special marriage-rate than the foreign born, the rate being for the natives 22.4, for the foreign 26.2. In the following period this low rate of the natives undergoes a further large decrease, while the high

French Canadian grooms in the years 1887-89 were but 2,979, or 5 per cent. of the whole number of grooms, they constituted together 207, or 18 per cent. of the 1,153 grooms under twenty years. In the same period, 1883-97, the recorded number of brides under fourteen years was only 17, or 0.005 per cent. of the whole number of brides (1883, 1; 1884, 2; 1885, 2; 1886, 2; 1887, 2; 1888, 4; 1889, 1; 1890, 1; 1893, 1; 1894, 1; 1895, 2).

TABLE IX.
SPECIAL MARRIAGE-RATES OF THE NATIVE AND FOREIGN BORN.

NATIVITY.	Population.			Marriages.			Annual special marriage-rate, †		
	1885	1890 †	1895	1885-87	1888-90	1893-97	1885-87	1888-90	1893-97
Males 20 years of age and over and age unknown:									
Native	366,499 *	422,640	460,024 ‡	57,120	60,983	63,328		28.86	27.43
Foreign	206,22 *	263,709	311,789 §	35,010	44,173	49,896	31.17	33.50	32.01
State	572,726	686,349	771,813	90,130	105,156	113,224	31.47	30.64	29.34
Females 14 years of age and over and age unknown:									
Native	495,868 †	559,686	602,048 ‡	55,549	59,125	61,506		21.17	20.47
Foreign	263,792 †	318,528	373,530	34,581	46,031	51,618	22.40	28.90	27.64
State	759,660	877,214	975,578	90,130	105,156	113,224	23.73	23.97	23.31

* Census of 1885, vol. i., part 1, p. lviii.

† Calculated from Census of 1890, vol. i., p. 831; vol. ii., p. 44. The Census of 1890 gives only the total number of natives and foreign born. It does not distinguish the natives among the colored and the natives among the whites. In the 1890 figures of age statistics as estimated by the following by subtraction that the number of native colored was 19,936. The total number of persons of negro descent was 22,144, that of the other colored 1,498. The other colored may be supposed to have been all foreign born (in 1895 the percentage was 76. Census of 1895, vol. ii., pp. 218 and 220). The 19,936 native colored all negroes. These 19,936 constitute exactly 90 per cent. of the total number of the persons of negro descent. The result is the same if both sexes are treated separately. The total number of native males was 773,853, that of the native white males 764,069. The number of native colored males was 9,794, or 90 per cent. of the 10,879 negroes. The total number of native females was 807,933, that of the native white females was 797,811, the number of native colored females 10,142, being again 90 per cent. of the 11,295 females of negro descent. In the following investigation, therefore, the term "natives in 1890" may be safely understood as meaning the native whites and 90 per cent. of the persons of negro descent. In like manner the term "foreign born in 1890" may be taken to mean the foreign whites, 10 per cent. of the persons of negro descent, and the total number of other colored.

‡ Census of 1895, vol. ii., p. 224.

§ Calculated from Census of 1895, vol. ii., pp. 422, 387.

¶ The grooms and brides not adult are treated as if they had married after their twentieth and fourteenth years of age respectively.

rate of the foreign born shows a large increase. The decrease in the last period was about the same for both rates, and did not, therefore, make any material change in the relation between them. In 1888-92 and in 1893-97 the rate was respectively 21.2 and 20.5 for the natives and 28.9 and 27.6 for the foreign born.

The comparison may now be extended to the different countries of birth; i.e., the annual average for the years 1887-89 of the marriages of the grooms born in the different countries may be compared with the total males over twenty years of age born in these countries and living in Massachusetts at the time of the census of 1885, and in the same way the brides may be compared with the females over fourteen years of age. The results of the census are given in Table X., columns 1 and 4; the rates found by the comparison in Table VIII., columns 3 and 5. As regards the grooms, we find that the lowest special marriage-rates are found in the case of Ireland, 25.7; Massachusetts, 30.5; the other New England states, 34.3; the highest for Sweden, 84.5; Prince Edward Island, 74.2; New Brunswick, 69.0. The order of the figures, as will easily be seen, is similar for the brides, but with exceptions. It must again be remembered, however, that the population of 1885 does not give a very exact basis. In order to obtain this, the state census of 1895 alone must be relied upon, as the federal census of 1890 does not give any information at all about the ages of the natives and foreign born combined with the country of birth. It must therefore be assumed that the population of 1888 was greater than that of 1885 by three-tenths of the increase of 1885-95. A further incorrectness grows out of the circumstance that, as the age classification of the censuses of 1885 and 1895 differ, the females for 1895 had to be considered adult from their sixteenth year, those of 1885 from their fifteenth year. The adult population for 1895 and the rate of increase for 1885-95 are given in

TABLE X.
ADULT POPULATION BY SEX AND COUNTRY OF BIRTH, 1885, 1895. INCREASE.

COUNTRY OF BIRTH.	Males 20 years and over and age unknown.			Females 14 (15) years and over and age unknown.		
	1885*	1895†	Increase 1885-95	1885*	1895†	Increase 1885-95
Massachusetts	258,236	319,187	13.6	355,754	415,684	16.8
Other New England states	82,281	97,870	18.9	103,670	116,860	12.7
Other states	25,982	43,967	68.4	36,444	52,806	44.9
English Canada	5,307	21,641	308.7	7,968	26,680	234.8
French Canada	22,427	40,066	77.8	26,968	46,098	70.9
Nova Scotia	13,645	17,231	26.3	21,622	26,079	20.6
Prince Edward Island	2,090	2,989	41.6	3,807	5,369	44.0
New Brunswick	5,041	6,824	35.4	8,848	10,725	22.0
England	23,339	34,890	49.5	25,042	36,706	46.7
Scotland	6,556	10,163	54.7	7,295	11,302	54.9
Ireland	98,199	104,983	6.9	135,796	145,592	7.5
Germany	10,908	14,580	33.7	9,379	13,455	43.5
Sweden	4,013	12,478	210.9	4,088	12,780	211.4
Portugal	2,898	6,045	108.6	2,529	5,406	113.8
Other countries	11,804	39,329	238.3	10,450	29,576	183.0
Native	366,499	460,024	25.5	495,868	585,351†	18.0†
Foreign	206,227	311,789	51.2	263,792	369,788†	40.2†
State	572,726	771,813	34.8	759,660	955,139†	25.7†

* Census of 1885, vol. I., part 1. pp. 572-574.

† Census of 1895, vol. II., pp. 700-707.

‡ The figures for the females do not contain, as stated above, the women from 14 to 15 years. The number of female natives of 14 years of age and over was (cf. Table IX.) 602,048, which means an increase of 21.4 per cent. since 1885 instead of 18.0; that of the foreign born, 373,830, an increase of 41.6 per cent. instead of 40.2; that of the total women, 975,878, an increase of 28.4 per cent. instead of 25.7. These deviations are so small that they would not affect one of the figures given in Table VIII. column 6, and Table XI.

FECUNDITY OF THE MASSACHUSETTS POPULATION 19

Table X., columns 2, 3, 5, 6, the corrected special marriage-rates in Table VIII., columns 4 and 6. For both sexes the adults born in Ireland show the smallest marriage-rate; *i.e.*, 25.2 and 20.6, respectively. Then follow, for the grooms, Massachusetts, 28.5; Germany, 31.3; Scotland, 32.0; the other New England states, 32.5. For the brides the rate next to Ireland is shown by the other New England states, 21.2; Massachusetts, 22.1; the other states, 23.2; English Canada, 25.0. The highest rate for both sexes is found for Prince Edward Island, 65.9 and 58.2, respectively; followed for males by New Brunswick, 62.4; Nova Scotia, 54.9; Sweden, 51.2; Portugal, 48.4; for females, by Sweden, 51.4; Portugal, 48.7; New Brunswick, 48.0; Nova Scotia, 46.9. For both sexes the five countries of birth exhibiting the highest rates are the same. The analogy of both sexes, in general, will appear better from a comparison of the results for the eight groups mentioned above (*cf.* Table XI).

TABLE XI.
SPECIAL MARRIAGE-RATES BY GROUPS OF COUNTRIES OF BIRTH,
1887-89.

GROUPS OF COUNTRIES OF BIRTH.	Annual Marriage-rates of the Adult.	
	Males.	Females.
I. Massachusetts	28.5	22.1
II. Other states of the Union	34.3	21.8
III. Canada	35.1	28.0
IV. Nova Scotia, New Brunswick, P. E. Island,	57.6	48.5
V. England, Scotland, Germany	33.8	27.9
VI. Ireland	25.2	20.6
VII. Sweden, Portugal	48.6	50.5
VIII. Other countries	32.9	35.7

It can easily be seen that, for the male sex, four of the eight groups show average marriage-rates, the rates for

group I. and especially for group VI. being exceptionally low, and those for groups IV. and VII. abnormally high. For the female sex, groups I. and VI., and, in addition, group II. show a very low rate, and groups IV. and VII. again a very high rate.

The salient difference between both sexes is with natives born in the Union outside of Massachusetts, and especially outside of New England. While the special marriage-rate of the males born in the United States outside of New England (39.4) is much higher than the average rate for the total population of the state (31.4), and also higher than that of the foreign born (33.4), the special marriage-rate of the females born in the same states (23.2) is not only much smaller than that of the foreign born (28.3), but also less than the average of the state (24.3). To this difference, then, is due the fact already noticed, that the special marriage-rate of the native females is more behind that of the foreign born than that of the males.

It may now be objected that the high special marriage-rate of the foreign born adults is perhaps due to a greater proportion of unmarried people than obtains among the natives. To test the objection, it will be necessary to eliminate from among the people of marriageable age those of unmarriageable condition,—*i.e.*, the married,—and compare the natives and foreign born marrying with the population of marriageable conjugal condition. These refined marriage-rates are given in Table XII.*

If these refined marriage-rates are compared with the special rates, first for the two groups of general nativity considered separately, a decrease is again found for the natives from period to period for both sexes. For the foreign males the increase in the marriage-rate from 1888-87 to 1888-92 disappears here, and gives place to a

* It is hard to understand how Arsène Dumont in his "Essai sur la natalité en Massachusetts" (op. cit. p. 338) can say, "Faute de donner une bonne répartition de la population par âge et par état civil, les census ne permettent pas . . . de calculer . . . le rapport des mariables aux mariés." . . . Cf. op. cit. p. 347.

TABLE XII.
REFINED MARRIAGE-RATES OF THE NATIVE AND FOREIGN BORN.

NATIVITY.	Unmarried population.				Refined annual marriage-rates.**			
	1885	1890	1895		1885-89	1890-92	1895-97	
Males 20 years of age and over and age unknown:								
Native	138,559*	170,347 †	190,383 †		82.45	71.60	66.53	
Foreign	66,169*	94,410 †	110,591 †		93.77	93.58	90.24	
State	204,727	264,757 †	300,974		88.05	79.44	75.24	
Females 14 years of age and over and age unknown:								
Native	264,331 †	304,710 ‡	331,082 ‡		42.03	38.81	37.21	
Foreign	124,201 †	151,245 §	172,688 §		55.69	60.87	59.78	
State	388,532	455,955	503,770		46.40	46.13	44.95	

* Calculated from *Census of 1885*, vol. i., part 1, p. Iviii.

† Calculated from *Census of 1895*, vol. i., part 1, pp. 272, 371, 443.

‡ Calculated from *Census of 1890*, vol. i, p. 851. Cf. Table IX., note i.

§ Calculated from *Census of 1890*, vol. ii. p. 44.

|| Calculated from *Census of 1890*, vol. ii. p. 224.

¶ Calculated from *Census of 1895*, vol. i. pp. 216-219, 222, 357, 422.

** Cf. Table IX., note §§.

decrease, which continues in the next period, so that the foreign males have also an uninterrupted decrease. For foreign women the strong increase shown from 1883-87 to 1888-92 is followed here by a decrease in the last period of but slight importance. A comparison of the special and the refined marriage-rates leads to the conclusion that the objection made was wrong, and that, after elimination of the persons already married, the differences seem still greater. Compared with the whole adult population, the marriages of the males in 1883-87 seemed alike for both groups of nativity. Compared with the adults not married, the natives had a proportion of only 82.4, the foreign of 99.8, marrying. An increased difference is shown by a comparison of the results for 1888-92, the rates being respectively 71.6 and 98.6, followed by a still greater in the years 1893-97, the rate of the natives dropping to 66.5, and that of the foreign born only to 90.2. The same is true for the female sex. In the first quinquennial period the difference is already very great, the rate for the native women being 42.0, that for the foreign born 55.7. In the following period that of the natives decreases to 38.8, while that of the foreign born increases to 60.9. And, as in the case of the male sex, the reverse of what was found in the comparison of the special rates may be stated for the refined rates; namely, a still greater difference for the years 1893-97, the rates being 37.2 and 59.8.

As the conjugal condition of the population born in the different countries is not known, it is not possible to extend the computation of the refined marriage-rates to these different parts of the population.*

* As, however, the *Census of 1885* shows for some countries of birth the number of women who were married or who had been married, it is possible to find by a simple deduction from the total adult women the number of adult single women born in these countries. As the adult single women constitute three-fourths (74.5 per cent.) of the total unmarried women of the state (77.3 per cent. among the natives, and 68.6 per cent. among the foreign born), and

It may now be contended that, perhaps, the age configuration of the unmarried foreign born increases their inclination to marriage, the proportion of the persons in age groups specially fit to marry being, perhaps, smaller in case of the native born.

To investigate the truth of this contention, it is necessary to compare the marriage-rates of the different age groups of unmarried persons, both natives and foreign born. Now the marriage age of the natives and foreign born is known only for the three years 1887, 1888, and 1889. As the federal census of 1890 gives the conjugal condition for natives and foreign born by age groups, its results may serve as a basis of comparison. In Table XIII. the annual marriage-rates of the natives and foreign born are given for both sexes for seven age groups.

The average rate for the males over twenty years is, for natives, 69.2; for the foreign born, 83.8. The difference is greatest for the youngest age group, *i.e.*, the men under twenty years, which is of but small importance. The reason for the excess of the foreign born here is to be found in the inclination of the French Canadians, mentioned

as the probability of marriage is much greater for the single women than is the probability of remarriage for the widows and divorced, the percentage of single women among the adult women will fairly indicate the differences which would result from a computation of the refined marriage-rates. The fact that the single women constitute 41.2 per cent. of the total adults among the natives, and only 32.3 per cent. among the foreign born (the percentage for the state being 38.1), thus explains the larger difference between the refined marriage-rate of the native and foreign born than between the special rates. The percentages of the single women among the total adult women born in different countries are as follows: Massachusetts, 46.1; Other New England states, 25.8; Other states, 37.2; English Canada, 40.4; French Canada, 35.9; Ireland, 30.1; Germany, 18.0; all other countries, 35.5. The most striking results are the high proportion of single among the adult natives of Massachusetts, and the small proportion for the Other New England states and Germany. The small special marriage-rate of the natives of Massachusetts gains thus in importance, while that of the natives of the Other New England states seems partly, that of the Germans entirely, due to the large proportion of women living in wedlock. The very small nuptiality of the natives born outside of New England indicated by the special marriage-rate would then probably appear also from a comparison of the refined marriage-rates.

TABLE XIII.

REFINED MARRIAGE-RATES OF THE NATIVE AND FOREIGN BORN BY
AGE GROUPS, 1887-89.

AGE GROUPS.	UNMARRIED POPULATION, 1890.*			
	Males.		Females.	
	Native.	Foreign.	Native.	Foreign.
15-19	81,880	21,790	80,941	25,321
20-24	65,550	32,608	57,155	34,349
25-29	34,357	22,411	30,726	19,940
30-34	19,824	10,172	20,464	9,033
35-44	19,531	10,982	25,911	14,808
45-54	10,341	7,250	20,517	15,803
55 and over . .	18,931	9,959	51,114	27,974
15 and over . .	250,414	115,172	286,828	147,228
20 and over . .	168,534	93,382		

AGE GROUPS.	MARRIED, 1887-89.†			
	Males.		Females.	
	Native.	Foreign.	Native.	Foreign.
15-19	818	333	6,529	3,024
20-24	12,879	8,338	14,732	11,753
25-29	11,219	8,586	7,353	6,423
30-34	4,983	2,956	2,855	1,879
35-44	3,573	2,407	2,022	1,525
45-54	1,319	873	674	380
55 and over . .	1,015	329	287	82
15 and over . .	5,806	23,822	34,452	25,066
20 and over . .	34,988	23,489		

* Census of 1890, part 1, p. 851. Cf. p. 16, note †.

† Calculated from *Registration Report*, vol. xli. pp. 32-39; vol. xlvii. pp. 36-43; vol. xlviii. pp. 36-43.

REFINED ANNUAL MARRIAGE-RATES.

AGE GROUPS.	Males.		Females.	
	Native.	Foreign.	Native.	Foreign.
15-19	3.3	5.1	26.9	39.8
20-24	65.5	85.2	85.9	114.1
25-29	108.8	127.7	79.8	107.4
30-34	83.8	96.9	46.5	69.3
35-44	61.0	73.1	26.0	34.3
45-54	42.5	40.1	10.9	8.0
55 and over . .	17.9	11.0	1.0	1.0
15 and over . .	47.7	68.9	40.0	56.8
20 and over . .	69.2	83.8		

above, to marry young. The difference for the men from twenty to twenty-four years is also above the average. The groups twenty-five to forty-four show a smaller difference than the average, and over forty-five the marriage-rate of the foreign born is less even than that of the natives. Results somewhat similar are found for the female sex. The average difference is exceeded by that in the youngest group and in the group of thirty to thirty-four years. The persons over forty-five years of age again show a higher marriage-rate for the natives.

The enormous difference, then, found between the general marriage-rate of the natives and foreign born is caused partly by the greater number of children among the natives. In the special rates obtained by eliminating these children, the difference decreases considerably. But this decrease is partly due to the greater number of persons unmarried among the natives, so that the computation of the refined marriage-rates for the unmarried adults makes the difference again greater. For both sexes the native population over forty-five years has a higher marriage-rate than the foreign born. The high marriage-rate of the foreign born is especially due to the strong inclination

to marriage on the part of the population born in Nova Scotia, New Brunswick, Prince Edward Island, Portugal, and Sweden, while the persons born in Ireland have a still smaller marriage-rate than those born in Massachusetts. The native women born outside of New England have a very small marriage-rate, but that of the males is comparatively high.

2. *The Conjugal Condition.*

It may seem superfluous, at first sight, to make any further investigation of the conjugal condition of the native and foreign born population in Massachusetts. As the marriage-rate of the foreign born was found to be much higher for a period of fifteen years, it may seem natural that the proportion of married people should also be larger among the foreign born than among the natives at the same period. But that is not necessarily true. The frequency of marriage, although the principal factor in determining the composition of a population with regard to conjugal condition, is not the only one. The age at marriage, and the duration of the marriages, also exert an influence. Again, the conjugal condition of the emigrants and immigrants is a factor which could influence the conjugal condition of two groups of population. It may be remembered, further, that our investigation so far has treated the marriages in the years 1883-97, while the births occurring in the same period owe their origin partly to marriages celebrated twenty years and more before, and that the conjugal condition of the population in the years 1883-97, which will be taken as a basis for the births, is not only the consequence of the marriages of the same period, but to a large extent the consequence of the marriages preceding that period. In order to make a thorough investigation of fecundity during the years 1883-97, it will be necessary to supplement the investigation of the marriages by a short glance at the conjugal

condition of the population in the same period. As in the matter of present propagation, the persons who are no longer married occupy the same rank as the single, it will be sufficient to treat the two groups of married and not married people, considering on the one side the married, and on the other the single, widowed, and divorced, and adding to them the persons of conjugal condition unknown. Table XIV. gives the native and foreign born population by sex and conjugal condition, and the proportion of the married and not married at the three censuses of 1885, 1890, and 1895.

For both sexes at each census the proportion of the not married was larger among the natives, while for the married the foreign born lead. For both sexes the proportion of the unmarried is increasing among the natives from census to census,—a result which seems to correspond with the decreasing marriage-rate stated above for the natives. On the other hand, an oscillation of the proportions of the two classes will be found for both sexes of foreign born,—a development parallel to that of the marriage-rates. It is not possible to give any data for the proportion of married and not married persons born in the different countries of birth, as no figures on that subject were published at any of the three censuses.

As was stated in the preceding discussion of marriages, the proportion of persons not capable of being in any other conjugal condition than the single — *i.e.*, the children — is much larger among the natives than among the foreign born. To eliminate this dissimilarity, Table XV., showing only the adult of both sexes, has been prepared.

The foreign born still show for both sexes at each census a much larger proportion of married than the natives. The small proportion of married among the natives is still decreasing for both sexes from census to census. While, for the males, the foreign born denote rather a decrease

TABLE XIV.
POPULATION BY SEX, NATIVITY, AND CONJUGAL CONDITION. 1885, 1890, 1895, PERCENTAGES.

NATIVITY.	Males.		Females.		Males.		Females.	
	Married.	Not married.	Married.	Not married.	Married.	Not married.	Married.	Not married.
Native . . .	228,276	460,008	231,538	188,* 493,452	33.17	66.83	31.85	68.15
Foreign . . .	140,181	104,419	139,591	142,676	57.31	42.69	49.45	50.55
Total . . .	368,457	564,427	371,129	636,128	39.50	60.50	36.77	63.23
Native . . .	252,536	521,317	253,976	189† 553,977	32.63	67.37	31.43	68.57
Foreign . . .	169,410	144,446	167,283	175,998	53.98	46.02	48.73	51.27
Total . . .	421,946	665,763	421,259	729,975	38.79	61.21	36.59	63.41
Native . . .	270,063	578,249	270,966	189‡ 615,975	31.84	68.16	30.55	69.45
Foreign . . .	201,374	165,015	200,842	197,999	54.96	45.04	50.39	49.61
Total . . .	471,437	743,264	471,808	813,974	38.81	61.19	36.70	63.30

* Calculated from *Census of 1885*, vol. i., part 1, p. lvii.

† Calculated from *Census of 1890*, vol. i. p. 351. Cf. p. 16, note 1.

‡ Calculated from *Census of 1895*, vol. ii. p. 223.

TABLE XV.
ADULT POPULATION BY SEX, NATIVITY, AND CONJUGAL CONDITION. 1885, 1890, 1895, PERCENTAGES.

NATIVITY.	Males, 20 years and over.			Females, 14 years and over.			Males, 20 years and over.			Females, 14 years and over.		
	Married.		Unmarried.	Married.		Unmarried.	Married.		Unmarried.	Married.		Unmarried.
Native . . .	227,941	138,558		231,537	188 ⁵ *		62.19		37.81	46.69		53.31
Foreign . . .	140,058	66,169		139,591	124,201		67.92		32.08	52.92		47.08
Total . . .	367,999	204,727		371,128	308,532		64.25		35.75	48.85		51.15
Native . . .	252,293	170,347		253,976	189 ⁰ †		59.69		40.31	45.46		54.54
Foreign . . .	169,299	94,410		167,283	151,245		64.21		35.80	52.52		47.48
Total . . .	421,592	264,757		421,259	455,955		61.43		38.57	48.02		51.98
Native . . .	269,641	190,383		270,966	189 ⁵ ‡		58.62		41.38	45.01		54.99
Foreign . . .	201,198	110,591		200,842	172,688		64.53		35.47	53.77		46.23
Total . . .	470,839	300,974		471,808	503,770		61.00		39.00	48.36		51.64

* For males of *Census of 1885*, vol. i., part 1, p. lvii. Females calculated from *Ibid.*, p. 272.

† Calculated from *Census of 1890*, vol. i. p. 831; vol. ii. p. 44. *Cf.* p. 16, note 1.

‡ For males of *Census of 1895*, vol. ii. p. 294. Females calculated from pp. 216-219, 223, 337, 422.

of the proportion of married persons, they show for the females a continued increase from census to census. The elimination of the children, then, had only the effect of diminishing the excess in the proportion of the married among the foreign born over the natives found in the comparison of the entire population.*

In order to see if (and how far) this supremacy of the foreign born in the proportion of married persons among the adults is perhaps due to a different age constitution of the native and foreign born, it would be necessary to extend the investigation to the different age groups. But the census of 1885 does not give separately the conjugal condition by age groups of the natives and foreign born; and, as the age classification in the census of 1890 does not agree with that followed in the state census of 1895, the result of the latter may alone be considered.

*The *Census of 1885*, giving the number of women living in wedlock or having been married, allows a comparison of at least the single adult women with the not single; namely, those who are married or have been married. The results are as follows (calculated from *Census of 1885*, vol. i., part 1, pp. 572-574; part 2, p. 1172, f.):—

COUNTRY OF BIRTH.	Females, 14 years and over.		Percentage.	
	Single.	Not single.	Single.	Not single.
Massachusetts	163,979	191,776	46.1	53.9
Other New England states	26,776	76,894	25.8	74.2
Other states	13,660	22,884	37.3	62.6
English Canada	3,218	4,760	40.4	59.6
French Canada	9,692	17,576	35.9	64.1
Great Britain	9,692	23,296	29.0	71.0
Ireland	40,827	94,969	30.1	69.9
Germany	1,688	7,691	18.0	82.0
Other countries	20,223	30,671	39.8	60.2
Native	204,315	291,554	41.2	58.8
Foreign	86,140	178,652	32.3	67.7
State	280,455	470,206	38.1	61.9

The proportion of single persons is especially high for the natives of Massachusetts and the English Canadians and excessively low for the natives born in the other New England states and Germany. The women born in Great Britain and Ireland have also a percentage of single persons smaller than the average of the foreign born.

TABLE XVI.

POPULATION BY SEX, NATIVITY, CONJUGAL CONDITION, AND AGE GROUPS IN 1895.*

NATIVE MALES.										PERCENTAGE.									
Conjugal Condition.	15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.	Un- known.		15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.			
	Married.	Married.	Married.	Married.	Married.	Married.	Married.	Married.		Married.	Married.	Married.	Married.	Married.	Married.	Married.			
Not married,	83,605	110,050	35,587	16,792	10,133	14,047	2,992	782		99.50	72.24	31.15	20.98	19.11	26.09	53.64			
Married.	422	42,294	78,656	63,264	42,898	39,784	2,585	159		.50	27.76	68.85	79.02	80.89	73.91	46.36			
Conjugal Condition.																			
Married.	176	34,337	62,728	48,095	33,492	21,674	708	164		.66	36.18	74.50	82.46	81.29	70.29	41.52			
Not married,	26,362	60,375	21,470	10,228	7,709	9,163	997	944		99.34	63.82	25.50	17.54	18.71	29.71	58.48			
FOREIGN MALES.										PERCENTAGE.									
Conjugal Condition.	15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.	Un- known.		15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.			
	Married.	Married.	Married.	Married.	Married.	Married.	Married.	Married.											
Not married,	81,553	99,299	39,215	25,558	22,229	37,762	7,883	794		96.26	39.19	32.70	30.57	37.24	59.00	89.56			
Married.	3,165	63,984	80,693	58,287	37,466	26,244	919	200		3.74	60.81	67.30	69.43	62.76	41.00	10.44			
Conjugal Condition.																			
Married.	1,741	52,000	61,421	43,862	27,252	14,105	907	152		5.69	46.91	75.10	72.55	60.00	37.49	8.54			
Not married,	28,857	58,853	20,364	16,595	16,232	23,515	2,218	314		94.31	53.09	24.90	27.45	40.00	62.51	91.46			
NATIVE FEMALES.										PERCENTAGE.									
Conjugal Condition.	15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.	Un- known.		15-19.	20-29.	30-39.	40-49.	50-59.	60-79.	80 and over.			
	Married.	Married.	Married.	Married.	Married.	Married.	Married.	Married.											
Not married,	81,553	99,299	39,215	25,558	22,229	37,762	7,883	794		96.26	39.19	32.70	30.57	37.24	59.00	89.56			
Married.	3,165	63,984	80,693	58,287	37,466	26,244	919	200		3.74	60.81	67.30	69.43	62.76	41.00	10.44			
Conjugal Condition.																			
Married.	1,741	52,000	61,421	43,862	27,252	14,105	907	152		5.69	46.91	75.10	72.55	60.00	37.49	8.54			
Not married,	28,857	58,853	20,364	16,595	16,232	23,515	2,218	314		94.31	53.09	24.90	27.45	40.00	62.51	91.46			

* Calculated from Census of 1890, vol. II, pp. 216-219.

The proportion of the married among the whole male population is higher for the foreign born than for the natives in every age group up to sixty years. The excess is especially great for the persons between twenty and forty years. In the older groups the difference decreases until among the persons over sixty years the natives have a higher proportion of married than the foreign born. While the proportion of the married increases among the natives up to sixty years, and shows a decrease only for the two oldest groups, the decrease begins among the foreign born in the age group fifty to fifty-nine. At first slow, it is in the oldest groups much stronger than for the natives. The development for the females is quite similar. The excess in the proportion of married persons among the foreign born is also very high for the persons under forty years. It decreases much in the next decennial group, and in every age group above fifty years the natives have a higher proportion of married people than the foreign born. While the proportion of married among the natives increases up to fifty years, the increase ceases for the foreign born again at the preceding period; and the decrease which follows is stronger than for the natives.

The superiority of the foreign born population in regard to the proportion of married persons acquires, then, a still greater importance, as it takes place for the males in the age groups below sixty years, and for the females below fifty years, reaching its maximum for both sexes in the most fruitful period of life.*

*The *Census of 1885* makes it possible to compare the proportion of at least the single women among the total adult women born in various countries for the different age groups. The number of married women will be given in Tables XXIX. and XXX. (cf. *Census of 1885*, vol. i., part 2, p. 1173). The number of single women (calculated from *Census of 1885*, vol. i., part 1, pp. lxiii, 572-574, and part 2, p. 1173), and the proportions they constitute of the total adult women, are as given in table on following page.

With the exception of the groups twenty to twenty-nine years, the proportion of the single is higher in every group among the natives than among the foreign born. As in the average for adults (p. 30, note *), the percentage is highest in the case of the natives of Massachusetts for every age group between

SINGLE ADULT WOMEN BY COUNTRY OF BIRTH, AND AGE GROUPS.										PERCENTAGE OF TOTAL ADULT WOMEN.						
COUNTRY OF BIRTH.		14-19	20-29	30-39	40-49	50-59	60-79	80 and over	Age un- known	14-19	20-29	30-39	40-49	50-59	60-79	80 and over
Massachusetts		72,147	83,827	16,101	7,564	4,406	4,217	683	4	98.9	98.8	98.8	97.7	94.0	10.9	11.7
Other New England states,		8,344	10,006	3,384	2,000	1,408	942	128	4	93.0	44.4	18.0	10.8	9.5	6.1	7.9
Other states		5,535	5,830	1,477	629	269	149	31	9	95.1	47.9	17.8	11.5	7.2	6.6	12.6
English Canada.		945	1,659	415	117	66	22	3	—	94.2	53.7	21.1	10.4	12.2	8.7	26.9
French Canada		5,262	3,495	631	135	42	23	4	—	92.6	40.2	12.2	3.5	1.9	2.1	4.6
Great Britain		3,530	3,963	973	379	214	127	5	—	96.2	46.6	12.2	6.6	5.4	4.2	2.6
Ireland		7,525	21,919	6,066	3,230	1,622	1,172	47	6	98.2	68.6	21.9	11.3	7.6	6.9	3.4
Germany		823	634	72	91	31	27	1	—	95.3	21.0	3.4	4.5	2.3	2.8	2.2
Other countries		5,222	10,943	2,457	920	395	167	35	4	93.7	55.9	20.2	12.9	10.0	7.3	18.1
Native born		86,026	74,453	21,462	10,184	6,022	5,308	842	17	96.4	85.4	23.2	15.2	12.3	9.4	10.9
Foreign born		23,816	41,704	10,894	4,972	2,410	1,588	98	11	95.3	27.5	18.8	10.1	7.1	6.3	5.9
State		109,842	116,157	32,356	15,156	8,432	6,896	940	28	96.2	56.1	21.5	13.0	10.2	8.5	9.7

3. *Summary on Nuptiality.*

The conclusions which may be drawn from the preceding study of nuptiality are the following:—

I. In the quinquennial period 1883-97 the general marriage-rate of the foreign born is three-fourths higher than that of the native born. That difference is partly due to the large proportion of children among the natives. The *special* marriage-rate of the foreign born adult men is but one-ninth, that of the women three-tenths higher than that of the adult natives. But, as the proportion of unmarried persons is much larger among the native adults, the differences between the *refined* marriage-rates of the not married adults are higher, that of the foreign born men exceeding that of the natives by three-tenths, that of the women by nearly one-half. The importance of these differences increases still more if the question of fecundity is considered, as a separate treatment of the different age groups seems to show for both sexes in the very fruitful age a still larger excess of the refined mar-

thirty and eighty years. The English Canadians, who, on the average, showed a higher percentage than the average of the state, have a smaller proportion for every age group under fifty years. On the other hand, the Germans, who, on the whole, had an exceedingly small percentage of single, show the same for every age group. The same may be said of the women born in the Other New England states and in Great Britain, who in every age group have a percentage of single persons smaller than the average of the state. But, perhaps, the most striking exception is furnished by the Irish women. While, on the whole, their percentage of single women is much smaller than that of the state, and even smaller than the average of the foreign born, they have by far the highest percentage of single women among the women under thirty years of age. Their percentage in the age group thirty to thirty-nine is only exceeded by the natives of Massachusetts, and in every age group from forty to eighty years they have a higher percentage of single women than the average of the state. The Irish, with 30 per cent. single among the total adult women, have in every age group under fifty years a higher proportion of single women than the English Canadians with 40 per cent. single among the total adult. The reason for this anomaly is to be found in the fact that, on the whole, the adult Irish population is much older, the adult English Canadian population much younger, than the total adults of the State. This, again, emphasizes the fact that every study of vital statistics is liable to lead to erroneous results without an examination of age constitution.

riage-rate of the foreign born, while the natives have a higher marriage-rate than the foreign born in the oldest groups. A subdivision of the fifteen years into three quinquennial periods shows for all the marriage-rates of the natives a decided decrease from period to period, while the rates of the foreign born have a larger increase from the first period to the second than they have a decrease from the second to the third; but the refined marriage-rate of the foreign born males shows a continual decrease.

II. In the triennial period from 1887 to 1889 the natives born in Massachusetts have the smallest general marriage-rate. It is exceeded by three-fifths by the Irish, by three-fourths by the other natives. The general marriage-rate of most of the other countries is twice as large as that of the natives of Massachusetts, while that of persons born in Nova Scotia, Prince Edward Island, New Brunswick, Sweden, and Portugal, seems to have been twice as large as that of the natives born outside of Massachusetts. The special marriage-rate of the adults is smallest with the Irish and with the natives born in New England, while the rate of the five above-named countries is more than twice as large. While the special marriage-rate of the native males born outside of New England is a third higher than that of the other natives, both classes of natives show the same rates for the female sex. Although the statistics of the population of the different countries of birth ought to be much improved before they warrant final conclusions, the small nuptiality of all the natives of New England,—of the persons born in Ireland, and of the females of the other states of the Union, seems to be evident.

III. At the three censuses of 1885, 1890, and 1895, the proportion of the married among the natives is less than one-third, while the proportion among the foreign born exceeds one-half. An elimination of the persons not adult raises the proportion of the native men to three-fifths,

that of the foreign men to nearly two-thirds, while that of the native women reaches six-thirteenths, and that of the foreign born seven-thirteenths. An investigation of the different age groups in 1895 shows that the excess of the married among the foreign born is for both sexes still larger in the fruitful periods of life, while the percentage of the married persons among the natives is higher in the oldest age groups. The proportion of the married among the total population, as well as among the adults, decreased for both sexes of natives from census to census. The foreign born do not show a decided change in either direction. For both sexes the proportion of married decreased from 1885 to 1890, and increased from 1890 to 1895.

R. R. KUCZYNSKI.

THE NATIONAL AMALGAMATED ASSOCIATION OF IRON, STEEL, AND TIN WORKERS, 1892-1901.*

IN the *Quarterly Journal of Economics* for July, 1898, there appeared an article giving the history of what was then known as the Amalgamated Association of Iron and Steel Workers, the history being brought down to the year 1892. The purpose of the present article is to record the history of that association since that year. There was a change in the title of the association in May, 1897, when the tin workers were recognized as an important part of the association. So it is now the National Amalgamated Association of Iron, Steel, and Tin Workers. The association is affiliated with the American Federation of Labor.

It is well at the present time to recapitulate briefly the history of the association from its organization. The Amalgamated Association of Iron and Steel Workers, as its name indicated, was the result of the combination of several trade bodies. The original societies which were consolidated in 1876, under the name of the Amalgamated Association of Iron and Steel Workers of the United States, were known previous to that date as the United Sons of Vulcan, consisting of boilers and puddlers; the Associated Brotherhood of Iron and Steel Heaters, Rollers, and Roughers of the United States, consisting of men employed at the furnaces and rolls; and the Iron and Steel Roll Hands Union, composed of catchers, hookers, helpers, and others engaged about the trains of works. These orders were separate and distinct prior to the amalgamation which took place August 4, 1876. The oldest of these three bodies, the

* I take pleasure in acknowledging my indebtedness to Mr. T. J. Shaffer, president of the Amalgamated Association of Iron, Steel, and Tin Workers, for data relating to the history of the association since 1892.

United Sons of Vulcan, originated in Pittsburg, where a local union was formed April 17, 1858, known as the Iron City Forge. The second order, so far as age is concerned, which was merged in the new association was the Associated Brotherhood of Iron and Steel Heaters, Rollers, and Roughers, an order instituted in August, 1872, with headquarters at Springfield, Illinois. The third organization, and the junior one, in the Amalgamated Association, was the Iron and Steel Roll Hands Union, organized June 2, 1873, with its general office at Columbus, Ohio.

The first convention of the consolidated associations was held at Pittsburg, August 4, 1876, when an elaborate constitution was adopted. This constitution has been amended from time to time, and now consists of thirty-eight articles, the principal features of which, as well as the declaration of principles, were given in the history of the association in the *Journal* for July, 1893.

Up to 1892, the year of the great Homestead conflict, the association had been remarkably free from disastrous strikes. It had had various difficulties; but, as it had been one of the chief exponents of the use of the sliding scale of wages, it avoided more than any other contemporaneous organization many petty strikes and difficulties. Before giving an account of the Homestead affair, the historical information will be detailed, leaving the experience of the association in conducting the various strikes in which it has participated since and including 1892 till the last.

The association, as at present organized, is composed of all men working in and around rolling mills, tin mills, steel works, chain works, nail, tack, spike, bolt, and nut factories, pipe mills, and all works run in connection with the same, except laborers. The latter are admitted at the discretion of the subordinate lodge, to which application must be made for membership. Thus skilled labor has a right to membership, but laborers unskilled can come in only at the discretion of the skilled members. Any person

employed at any job controlled by the association is eligible to membership, whether he be a stockholder or director.

The object of the association is the elevation of the position of its members, the maintenance of their best interests, and to obtain by conciliation, or by other means, just, legal, and fair remuneration to its members for their labor; and, further, to afford mutual protection to members against broken contracts, obnoxious rules, unlawful discharge, or any system of injustice or oppression.

The general office of the association is located by the constitution in the city of Pittsburg, Pennsylvania; and the president and secretary-treasurer of the national body must reside where the general office is located. The association at its annual conventions elects the president, secretary-treasurer, assistant secretary, the managing editor of the *Amalgamated Journal*, a vice-president for each district or division of a district, and three trustees. All these officers hold until their successors are elected.

The national conventions of the Amalgamated Association — and this general term will be used instead of reciting the full title of the association — have been held at the following-named times and places: Pittsburg, 1876; Columbus, 1877; Wheeling, 1878; Youngstown, 1879; Pittsburg, 1880; Cleveland, 1881; Chicago, 1882; Philadelphia, 1883; Pittsburg, 1884; Wheeling, 1885. All these conventions were held in August. Those from 1886 to 1893 were held annually in June and at Pittsburg. After that the places of holding the conventions have varied; but the time of meeting has been in May,—in Cleveland, 1894 and 1895; Detroit, 1896 and 1897; Cincinnati, 1898; Detroit, 1899; Indianapolis, 1900; Milwaukee, 1901.

The number of delegates in attendance at each convention, the number of active lodges each year, the total membership of the order at the time of each annual con-

vention, and the average membership per lodge since the organization of the order are given in the following table :

REPORTED TO CONVENTION HELD AT	Year.	Delegates in attend- ance.	Number of active lodges.	Total mem- bership.	Average membership per lodge.
Columbus	1877	77	111	3,755	34
Wheeling	1878	91	110	4,044	37
Youngstown	1879	104	104	5,500	52
Pittsburg	1880	192	155	9,550	62
Cleveland	1881	173	166	10,359	62
Chicago	1882	213	197	16,003	81
Philadelphia	1883	153	183	11,800	64
Pittsburg	1884	149	160	9,242	58
Wheeling	1885	88	107	5,702	53
Pittsburg	1886	121	106	7,319	68
Pittsburg	1887	172	154	11,426	74
Pittsburg	1888	194	172	14,946	87
Pittsburg	1889	194	189	16,117	85
Pittsburg	1890	253	234	20,781	88
Pittsburg	1891	294	290	24,068	83
Pittsburg	1892	254	291	20,975	72
Pittsburg	1893	152	234	13,613	58
Cleveland	1894	96	150	10,000	66
Cleveland	1895	85	125	10,000	80
Detroit	1896	115	132	11,000	83
Detroit	1897	123	145	10,500	72
Cincinnati	1898	118	153	10,500	65
Detroit	1899	140	145	11,050	76
Indianapolis	1900	202	181	14,035	77
Milwaukee	1901	200	160	13,892	87

The annual conventions are often continued through many days, sometimes lasting for two or three weeks; for at each convention the association adjusts scales for the ensuing year, and the multitude of details attending the adoption of a scale of wages adjusted to market prices of iron and steel involves a vast deal of labor and many conferences.

There have been but few changes in the constitution of the association since 1892. In 1893 the constitution was changed to provide for a referendum vote on scale questions after the regular conference committee had failed to reach a settlement with the employers; but this provision was abrogated in 1901, because it was found to be expen-

sive, injurious to the interests of the order, and unprofitable. The only constitutional change with reference to strikes was in 1899, being Section 23 of Article 17, the new law reading as follows: "Should one mill in a combine or trust have a difficulty, all mills in said combine or trust shall cease work until such grievance is settled." This new law played a very important part in the recent steel strike. It is very probable that this amendment will be rescinded or altered at an early convention, because it was found inefficient during the contest of the Amalgamated Association with the United States Steel Corporation. Some minor changes in the constitution have been made, but they are not vital. In 1899 the association withdrew its support from the *National Labor Tribune*, an independent trades journal, and issued its own paper, called the *Amalgamated Journal*. This venture has been a decided financial success.

During the past ten years the Amalgamated Association has not absorbed any new bodies; but it has released several,—the chain-makers in 1894; the men who work in tin-house or wash-house where plates are coated with tin, lead, or composite material (these men formed the American Tin Plate Workers' Protective Association in 1899 at Kansas City, Missouri); and the rod-mill workers, who formed an independent organization in 1896, but which is now defunct. The Amalgamated also released the tube workers in 1901, but has an arrangement with the American Federation of Labor providing that all men working in rolling mills, when organized by that body, shall be made part of the Amalgamated Association upon its request.

It is greatly to the credit of the Amalgamated Association that during its twenty-five years of existence it has had but five presidents,—Joseph Bishop, John Jarrett, William Weihe, and W. M. Garland,—accounts of whom were given in the previous article. Mr. Garland continued as

president until April 9, 1898, when the present president, Mr. T. J. Shaffer, was elected; and Mr. Shaffer has since held and continues to hold that office. He was born in Pittsburg, Pennsylvania, April 23, 1857. He served as roller and manager in sheet, plate, and tin mills, and while serving in these capacities began his education, completing the same at the Western University at Pittsburg. After leaving the mills, he was for ten years a minister of the Methodist Episcopal Church, retiring on account of enfeebled health, and after retiring from the ministry was elected president of the Amalgamated Association, as already stated.

The secretaries since 1892 have been John Kilgallon, whose office in 1895 was expanded so as to cover the duties of the treasurer, the title being secretary and treasurer, Mr. Kilgallon serving till February 4, 1897, the date of his death; Stephen Madden, who was made secretary-treasurer after the death of Mr. Kilgallon; and John Williams, who succeeded Mr. Madden May 27, 1898, and who has served since that date. The association has learned the importance to its interests of continuing its experienced men in office.

The Amalgamated, as already stated, during the first fifteen years of its life was strong in its advocacy of the sliding scale; and its experience since 1892 has convinced its administrative force of the wisdom of adopting that scale. Their experience with it has been satisfactory on the whole, although each year resolutions are presented looking to its abolition. Those opposed to it, however, have never offered anything so effective to take its place or that appealed so much to the justice of the membership of the association. Consequently, the use of the scale continues to be indorsed by the majority of the members of the association; and it has, without exception, the approval of the employers with whom the association deals.

The association, on the whole, has also been in favor of some conciliatory method of dealing with troubles when they arise, being ready, as a rule, to submit its grievances to arbitration, as will be seen when relating its experience in its great strikes. President Shaffer, in his annual reports, has proposed wage settlements by conciliation and mediation; and his recommendations were indorsed by the last convention, and will become operative in May, 1902, when the conferences meet to arrange the scales of wages. In 1900 the executive council on two occasions agreed to arbitrate; but the work of conference committees, or those engaged in making collective bargains, rendered it unnecessary.

The financial condition of the order has varied with its varied experience. The following table gives the total receipts, total expenditures, and strike disbursements from 1892 to 1901, inclusive:—

YEAR.	Total receipts.	Total expenditures.	Strike disbursements.
1892	\$153,434.49	\$193,222.33	\$115,504.00
1893	211,347.13	178,741.71	53,433.15
1894	25,341.92	42,404.71	20,497.00
1895	18,996.94	21,048.40	4,798.00
1896	22,290.55	12,525.76	200.00
1897	21,170.69	15,962.96	2,118.00
1898	24,199.93	25,830.65	11,151.00
1899	30,237.93	22,202.62	
1900	49,439.53	27,364.40	
1901	119,659.07	44,760.33	3,139.74*

The financial years of the association begin April 1 and end March 31. Therefore the last year's account in the preceding statement is up to March 31, 1901. The association allows \$6 per week for victimized members. There is no other allowance on account of such members.

In 1891 the association had a membership of about

* There has been distributed \$125,000 on account of the late steel strike since its inception up to October 26.

24,000. It has never since reached this number. The smallest membership was in 1894 and 1895, when it dropped to 10,000. There has been since then, on the whole, some increase; but it is noticeable that after the Homestead affair in 1892 the membership fell off very rapidly. The figures show a very great falling off in membership and in financial resources from 1892 to 1898, after which there was a steady increase in membership and consequently in receipts. The decline is attributable to the Homestead strike. The membership now is about 14,000.

The tenure of membership has been unchanged, and there has been evidence of better understanding and more harmonious business relations between the employer and the workmen until during the last few months. This better understanding has been the result of increased study and knowledge of trade relations, the conditions of production, and the mutuality of interest. Probably any retarding influence which the recent contest may have had upon these relations will be temporary; and, when the parties to it thoroughly understand each other, in all probability the good relations existing prior to the difficulty will be more than reinstated.

The strike attitude of the association has not been changed during the past ten years, the laws of the association stating that no sub-lodge shall be permitted to enter upon a strike unless authorized by the executive committee of the district or division having particular jurisdiction; and, when so authorized, the general office must be notified in writing, when the secretary of the national lodge prepares a printed statement of all the facts in the case, and forwards the same, under the seal of the national lodge, to all sub-lodges, warning all loyal members of the order not to accept work in the mills, shops, or factories involved.

From 1876, when the Amalgamated Association was organized, to November, 1892, there had been paid to men

engaged in strikes and lockouts and those victimized about \$600,000. Since then the amount so paid out, including disbursements on account of recent steel strike, aggregates \$220,336.89, or a total since the organization of the association of \$820,336.89. The association has taken great pride in fulfilling its constitutional obligations by paying its members their benefits when they become due.

The experience of the Amalgamated Association in labor contests, notwithstanding its constant advocacy of conciliatory methods in adopting sliding scales for the adjustment of wages, has been not only varied, but at times bitter; and in the great Homestead contest, which partook of the elements of a lockout and a strike, the experience was somewhat disastrous, dramatic, and even tragic.* Many of the contests in which the association has been engaged have been trivial, and, even when serious, have not been accompanied by violence or any complications beyond those attending the efforts to secure the adoption of wage scales. In many cases where the scale has been the subject of short discussion between the committees of the association and the employers there have been compromises or the concession by one side or the other to counter-demands.

The recital of all the facts relating to the association's labor wars, excluding the Homestead affair and the late steel strike, would have no particular value in a history of

*There are a good many accounts, official and otherwise, of what is known as the Homestead strike. The leading accounts are to be found in the reports of the committee of the United States Senate ordered to investigate and report the facts in relation to the employment for private purposes of armed bodies of men, etc., in connection with differences between workmen and employers (Senate Report No. 1280, 52d Congress, Second Session); the report of the House Committee on the Judiciary ordered to investigate the employment of Pinkerton detectives (H. R. Report No. 2447, 52d Congress, Second Session); Appleton's *Annual Encyclopedia* for 1892; Annual Report of the Bureau of Industrial Statistics of Pennsylvania for 1892; "The Homestead Strike," by Edward W. Bemis (*Journal of Political Economy*, Chicago University, June, 1894); *Industrial Evolution of the United States*, chap. xxv., by the author. The statement herewith presented has been drawn largely from accounts in manuscript in the possession of the writer.

the association, and would be simply the repetition of many petty details; but the magnitude of the two great labor wars in which the association has participated demands, for historical purposes, quite full general treatment. The minor contests are well illustrated by a strike which occurred among the tin workers in 1894, the cause of the strike being a protest against a 30 per cent. reduction. The affair was compromised by accepting a 15 per cent. reduction, but the result to the order was the loss of five union-scale mills. All the contests other than the two great ones during the past ten years have been, as a rule, petty strikes on the part of some of the subordinate lodges of workmen connected with the Amalgamated Association.

The Homestead difficulty, which was the first great contest in which the Amalgamated took part as an association, was complicated in many directions. For many years sliding scales had been based upon the price of bar iron, as bar iron was the most thoroughly staple article in the iron market; but for a few years prior to 1892, when the Homestead difficulty arose, the price of steel billets had constituted the basis for the adjustment of the scale. Of course, there had been many changes in various respects in the adjustment of the scales prior to July 1, 1892. These adjustments had been rendered necessary on account of improvements that had been introduced in the production of steel, but in making these changes the employers and employees had with more or less difficulty reached agreements that were fairly satisfactory to both parties. This was essentially the case with the Carnegie Steel Company in relation to their employees at Homestead. Early in 1892, however, the management of the company proposed a reduction in rates. It also proposed a reduction in the minimum price of steel billets. There was also a proposition that the number of men in some of the crews be reduced; and in addition to these propositions there was a

demand on the part of the management that the date of terminating the scale, which had been in June or July, should be projected to December, and, further, that in some of the departments the number of hours be increased from eight to twelve. Other regulations and rules of employment that the association had secured from the management were to be abolished. The management intended that these propositions should take effect in the open hearth, armor plate, and 119-inch plate mills; but the other departments were to continue at the old rates until the mills had been renovated and put on a more modern basis, when it was the proposition of the management to seek a re-arrangement in the schedules of rates.

Putting these propositions into categorical form, and summarizing them as to the most important elements of the contract which was proposed to the men, it is found that there were three leading points,— first, a reduction in the minimum of the scale for billets from \$25 to \$22; second, a change in the expiration of the date of the scales from June 30 to December 31; third, a reduction of tonnage rates at those furnaces and mills in which important improvements had been made and new machinery introduced, whereby the output had been greatly increased, as also a reduction in the earnings of some of the workmen.

The reason given by the company for reducing the minimum on which the scale was to be based was that the market price of steel had gone down below \$25 per ton, it being considered by the company that it would be unfair if the workmen should have the benefit of a rise in the market price above \$25, and should share none of the losses when the price fell below that figure. As a matter of fact, it was contended by the company that there ought not to be any minimum in the adjustment of the scale, especially as there was no maximum figure on which such a scale was based. The workmen, on the other hand, were certain in the reasonableness of their conviction that there

should be a minimum; for, as they claimed, they had no voice in fixing the selling price of the products of their labor, hence the necessity of the minimum to protect them against any cutting of price or discrimination in favor of buyers.

The reason given for the proposition to change the time at which contracts should cease was that the steel business was usually duller at the end of the calendar year than at the time then fixed for the closing of such contracts,—that is, June 30,—and, that being the case, it was contended that it was much easier to adjust new scales for the future. A further reason advanced on the part of the company for making this change in time was that sales were often made for an entire year: hence labor contracts could be more safely made if they began and ended at times corresponding with contracts made with their customers. This contention was combated by the workmen on the ground that they would not be in a condition in midwinter to resist attempts which might be made on the part of the company to lower the scale of wages, and consequently, in case of a strike, there would be great difficulty in maintaining their position,—at least more difficulty than would be experienced in July. They claimed that the change contemplated would put them to a disadvantage in conducting negotiations with the company.

After receiving the proposition outlined above, which the Carnegie Company made through its chairman, Mr. Frick, the association submitted a counter-proposition to the effect that the contracts should end the last of June, as formerly, and that, if any change was to be demanded, three months' notice must be given them, and that, if this was not done, the contract which was to run for three years should continue for another year; that is, from June 30, 1895, until June 30, 1896. The company promptly rejected this counter-proposition, but finally submitted a proposition making the minimum \$23 per ton

for steel billets as the basis instead of \$22, as originally proposed. The association met this proposition by an offer to reduce the minimum from \$25 to \$24, but positively refused to arrange a minimum on any lower figures. The desire of the company to arrange for a renewal of the scale, or contract, is well shown by a letter written by Mr. Frick, the manager of the Carnegie Company, on the 30th of May, 1892, and addressed to the superintendent of the Homestead Steel Works. This letter is as follows :—

Dear Sir,—Referring to my visit to the works this morning, I now hand you herewith Homestead Steel Works wages scales for the open hearth plants and No. 32 and 119-inch mills, which you will please present immediately to the joint committee, with the request that its decision be given thereon not later than June 24, 1892.

These scales have had most careful consideration with a desire to act toward our employees in the most liberal manner. A number of rates have been advanced upon your recommendation, and the wages which will be earned thereunder are considerably in advance of those received by the employees of any of our competitors in the same lines. You can say to the committee that these scales are in all respects the most liberal that can be offered. We do not care whether a man belongs to a union or not, nor do we wish to interfere. He may belong to as many unions or organizations as he chooses, but we think our employees at Homestead Steel Works would fare much better working under the system in vogue at Edgar Thompson and Duquesne.

Yours truly,

H. C. FRICK, *Chairman.*

June 22, Mr. Frick wrote Mr. Weihe, then president of the Amalgamated Association, as follows :—

Dear Sir,—Our superintendent at Homestead, Mr. Potter, advises that a committee from your association waited on him last night and asked for a conference to-morrow at ten o'clock, and that, if satisfactory to us, to advise you to-day. We beg to say that we will be glad to meet you and a committee with full power to act for those of our Homestead employees who are members of your association to-morrow at this office at ten o'clock.

Yours very truly,

H. C. FRICK, *Chairman.*

Here was the basis for difficulty. The ultimatum of the company presented May 30, as stated in the foregoing letter of that date, was considered, of course, by the executive officials of the association and the members thereof; and it was decided to ask for another conference, which was held on the 23d of June. At this conference the representatives of the workmen offered to reduce the minimum of the scale from \$25 to \$24, while the company held that it would not go higher than \$23, and insisted that all other stipulations remain as submitted in the letter of May 30. This position was not satisfactory to the workmen, and the conference adjourned, after which the mill continued to work until the morning of June 30, when the company closed down the works.

Thus was laid the basis for the conflict at Homestead in 1892. That year had opened with two of the Carnegie plants run by non-union men. These were the Edgar Thompson at Braddock, where the Knights of Labor had been defeated in 1888, and the Duquesne Steel Works, which were bought in 1890. The contracts at the Carnegie plants at Homestead and at some others employing members of the Amalgamated Association were to expire in June and July, 1892. The relations of employers and men at Homestead were apparently on a friendly basis. The men had about \$140,000 on deposit with the company, and this sum was drawing interest at 6 per cent. The company had loaned sixty-nine workers nearly \$43,000, or an average of \$620 each, with which to purchase homes. There never had been any foreclosures. It seems somewhat strange, therefore, that after all the experience of the Amalgamated Association with the employers there should come a time when they should find themselves not only antagonizing each other in conference and in the bitter disputes of counter-propositions, but actually in battle array.

It is necessary, therefore, to understand something of

the reasons which brought on the fierce conflict that made the Homestead affair of 1892 memorable in labor wars. Mr. William T. Roberts, a member of the employees' committee, testified before the Senate committee investigating the Homestead contest that his associates were willing to make any reductions where it could be shown that reductions were necessary; and he told some of the employers that his committee wished to settle the difficulty without trouble, and did not want a strike. After the first propositions were made by the company and rejected by the men, and the latter had submitted their counter-proposition, little was heard about the renewal of contracts until the very last of May; but during April and May the company enclosed the grounds with a high fence, with barbed wire protection on the top, the fence being pierced with holes. The sewers leading from the grounds were provided with gratings, search-lights were erected, and other preparations were made, apparently with the purpose of defending the works against some anticipated attack. Such actions, under ordinary conditions, cannot be accounted for, but it is reasonable to suppose that there was something in the experience of the past which led the company to take such unprecedented precautions; and these reasons were given by Mr. Frick in his testimony before the committee of the United States House of Representatives which investigated the employment of Pinkerton detectives at Homestead.

There had been trouble in 1889 in the adjustment of the scale which went into effect that year and which was to expire June 30, 1892. Mr. Frick says that the company felt the necessity in 1889 of a change at the works, and he insists that at that time the workmen began tactics similar to those employed early in 1892. During the troubles in 1889 the sheriff assured the company that there would be no difficulty, that he would give it ample protection, and see that men who were willing to work

were not interfered with. The sheriff took a posse of over one hundred men to the works; but they were not permitted to land on the property of the company,—in fact, they were driven off with threats of bodily harm, and the prospect was that there would be great destruction of life and property. This action frightened the Carnegie Company.

This fright three years before led to the apprehension, as claimed by the Carnegie Company, of serious difficulty in 1892; and it felt justified in preparing, as related, for any conflict which might occur, to guard against which, not having much confidence in the sheriff's forces, it employed three hundred Pinkerton guards to come to Pittsburg and aid in the protection of the property at Homestead, and of men who were willing to take the places of the locked-out workmen.

At this time the men made a most serious mistake by chasing out of town, or into places where they could not be found, all persons who were ready to take the places of association members; for by this time (July 1), while the lockout had been declared, the affair took on some of the features of a strike, as large numbers at Homestead other than those locked out, even unskilled and unorganized men, struck out of sympathy with their locked-out brothers. The fear existed that, were wages reduced and the Amalgamated Association broken up, the wages of non-union men would be reduced in time.

The president of the Amalgamated Association for the nine years ending near the close of 1892 made the following statement in his testimony before the Senate committee:—

I believe if the company would have conceded to a conference again, and kept up negotiations until the 1st of July, there might have been a possibility of arriving at some settlement that would have been satisfactory to both parties. My experience has been in the past nine or ten years that very often, when a conference took

place, in the beginning it looked as if no agreement could be reached, but, when the day came upon which the scale expired, agreements were reached, and the work went on through conciliation. I believe, if the conference had been continued between the 23d of June and the 1st of July, finally some settlement would have been reached that would have been satisfactory to both parties.

Before the arrival of the Pinkerton guards the men, and, as they claimed, with the motive of loyalty to the company, undertook to guard the company's property. Notwithstanding their motive, this action exasperated the management, which could not look behind the action itself. The fact that the workmen protected the property from damage by the strikers, even to the extent of repairing leaky gas-cocks and mains, did not convince the company that the workmen had any right to prevent the foremen from entering, although officers of the company were allowed to enter the works. The guards of the workmen, by resorting to persuasion and threats, according to the testimony of the superintendent, only added to the existing antagonism. Granting that the motives of the men in guarding the property were to prevent its destruction, it must be conceded, by them even, that a very grave mistake was committed. They were exasperated by the erection of defences and the news of the employment of a large body of Pinkerton guards. Their counter-action was to take possession of the grounds within the defences, that they might prevent the entrance of the guards; and as an act of humane warfare they thought they were justified in preventing the company from having the care of its own property.

Another exasperating feature is found in the conditions of the men at Homestead. Many of them had made little homes for themselves, and some of them had been partly paid for. They were allowed the privilege of belonging to their own association or to any association to which they saw fit to attach themselves. They were naturally

loyal to their organization, and felt that through its influence they had been enabled to accumulate sufficient money to build their houses. So, when they found themselves confronted with what they considered a foreign force, and with imported laborers to take their places in the works, they felt that their own homes were in danger; and they very naturally made preparations to defend them. The company, not taking these things into consideration in sufficient degree and feeling that unlawful possession had been taken of its works, was not in any more conciliatory spirit than the men themselves.

These conditions and the influences growing out of the conditions could have but one result,—a physical conflict; and this conflict began on the evening of July 5, when the Pinkerton men reached the scene. It is not necessary at the present time to repeat in detail the oft-told story of the battle at Homestead. It has been thought wise to recite with some fullness the events which led to the conflict, because there have been so many conflicting accounts of conditions, motives, and circumstances that a history of the Amalgamated Association ought to give them. The story of the battle, for the sake of historical integrity, however, may be briefly told.

The controversy was the severest in the history of the United States. Probably the most extensive and far-reaching strike which can properly be classed among the historical labor controversies of the nineteenth century was the Chicago strike of June and July, 1894; but the most thrilling and dramatic incident or event in the labor movements in this country must be considered the Homestead affair of July 5 and 6, 1892. July 4 the officers of the Carnegie Steel Company asked the sheriff of the county to appoint deputies to protect the works while it carried out its intention of making repairs. The employees, on their part, undertook to defend the works against what they called encroachments or demands to enter. When

the sheriff's men approached, the workmen, who were assembled in force, notified them to leave the place. They further offered to act as deputies,—an offer which was promptly declined. Fighting commenced on the evening of the 5th of July, the immediate cause of the clash being the approach of the Pinkerton detectives, who were gathered in two steel-lined barges on the river some miles below the works. When the Pinkertons arrived, the workmen broke through the mill fence, intrenched themselves behind steel billets, and made all preparations to resist the approach of the barges. They resisted all attempts to land, this resistance resulting in a fierce battle, brought on by a heavy volley of shots from the strikers, although it has been a question as to whether the first shots were fired by the Pinkertons or by the men. The Pinkertons were armed with Winchesters, but they were forced to ascend an embankment in single file, and so were compelled to return to the boats, suffering severely from the opposing fire. Many efforts were made to land; but the position of the men the detectives were attacking was an exceedingly strong one, they having intrenched themselves behind breastworks protected by steel rails and billets, and from this safe place of refuge the detectives were subjected to a most galling fire.

The battle was renewed the following morning (July 6), when a brass ten-pound cannon had been secured by the strikers and so planted as to command the barges moored at the banks of the river. Another force of a thousand men had taken up a position on the opposite side of the river, where they protected themselves and the cannon which they had obtained by a breastwork of railroad ties. Just before nine o'clock the bombardment commenced, the cannon being trained on the boats; and the fire was kept up for several hours. As the boats were protected by heavy steel plates inside, efforts were made to fire them by the means

of hose and oil spread on the decks and sides of the barges, and with barrels of oil emptied into the river above the mooring-place, the purpose being to ignite it and then allow it to float against the boats; but this proved only partly successful. Under these combined movements, however, the Pinkertons were obliged to throw out a flag of truce. Seven of their men had been killed and twenty or thirty wounded in the battles. The officers of the Amalgamated Association interfered, and a surrender of the detectives was arranged. It was proposed that they should be safely guarded under condition that they left their arms and ammunition. These terms were accepted. The governor of the State was called on for troops, as the sheriff confessed that he could not keep order; and on the 12th of July a division of the National Guard of Pennsylvania, under arms and with ammunition, was ordered to support the sheriff of Allegheny County at Homestead. During the interval before the troops arrived, however, there was much looting, clubbing, and stoning; and the detectives, even after their surrender, while passing through the streets were treated with great cruelty and abuse. Eleven workmen and spectators were killed in the various fights. For dramatic incident there is nothing in all the romantic labor literature from Disraeli's *Sybil* to Zola's *Labor* to equal this battle at Homestead in 1892.

On the arrival of the soldiers the Carnegie Company took possession of its works and began to make preparation to resume operations with non-union men; but it was difficult to secure skilled workmen, and several months elapsed before the company was able to obtain all the men desired. While the men were greatly dissatisfied at the conduct of the company, further resistance to its plans was futile. New employees were fed and housed within the enclosure for several weeks until there was a sufficient number to warrant them in feeling some security in going outside under the protection of sheriff's deputies. These

new employees were to all intents and purposes voluntary prisoners.

There was not much opportunity for negotiation; and feeling was intensified when, July 23, the anarchist Alexander Berkman made an attempt upon Mr. Frick's life. It has never been shown, or claimed even, that this attempt was made with the knowledge or even connivance of the striking workmen; but it very naturally intensified the feeling of antagonism. Public-spirited gentlemen were at that time undertaking to secure some reconciliation; but the attempted assassination of Mr. Frick completely barred the way to conciliatory efforts, although the officers of the Amalgamated Association declared that there was no disposition on the part of the employees to stand upon the question of scale, or wages, or hours, or anything else,—that all that was wanted was a reopening of the conference doors.

It was July 27 when the works at Homestead reopened under military protection. All the troops save one regiment had been withdrawn by September 19. The striking mechanics and laborers returned to work November 17 and 18, and the Amalgamated Association on the 20th of November declared the strike at an end. Most, but not all, of the older men were taken back. Many new men had been employed; and until the new scale was arranged, in July of the following year, wages and conditions of employment were such as the company saw fit to grant.

The action of July 6 resulted in 163 indictments for conspiracy, riot, treason, and murder. A few were tried, but there were no convictions. Members of the association brought charges against the Carnegie officials and the Pinkertons, but neither were ever prosecuted.

Early in 1893 two men were convicted and imprisoned on the charge of causing the death of some of the non-union men by poisoning their food, but it has never been maintained by any one that the members of the Amalga-

mated or the advisory committee either connived at or indorsed the crime.

The cost of the strike can be fairly well stated in figures. Mr. Frick testified before the Congressional committee that the strike cost the men in wages during its 148 days of duration about \$1,000,000. The official records of the United States Department of Labor show that the men lost in wages \$820,000, and paid out in assistance \$120,000, being \$940,000 in all, and that the company's loss was \$750,000. There were 1,600 new employees brought into the works as the result of the lockout. The loss of the men engaged in the sympathetic strikes accompanying the lockout was, in wages, \$945,000, and in assistance paid out \$50,000, or a total of \$995,000, while the employers, on account of the sympathetic strikes, met a loss of about \$200,000. There were 1,250 new employees brought into the works that engaged in sympathetic strike. The State treasurer of Pennsylvania has stated that the cost to the State in maintaining order at Homestead was \$440,246. The aggregate cost in losses of the Homestead lockout-strike, so far as can be ascertained, was therefore \$3,325,246.

The Amalgamated Association was greatly reduced in strength by the loss of members in consequence of the defeat at Homestead; but that defeat does not seem to have seriously influenced the wage scales in mills not competing with the Homestead works, for a scale was most amicably arranged in July, 1893, between twenty-three companies in the Iron and Steel Sheet Manufacturers' Association and the trades-unions comprising the workmen employed by those companies. And how different were the sentiments accompanying the Amalgamated Association's adjustment of a scale at Homestead in 1893 from those which existed the previous year! The following is the statement of the secretary of the association at the close of the conference at that time:—

The scale on sheet and tin mills was signed this morning at one o'clock. The scale as arranged is practically the same as that in force last year. A few adjustments have been made that are equally advantageous to both parties. The sessions of this conference have been very pleasant. The disposition on the part of both was clearly that of acting justly. All felt that mutual interests were at stake, and the business-like manner in which the conference was conducted is highly creditable to all concerned. When the scale had been signed, President Garland spoke appropriately of the friendly feelings existing, and was followed by Mr. McMurtry, who complimented the Amalgamated Association committee for the very acceptable manner in which they had conducted their negotiations. A very satisfactory tariff resolution was readily agreed to.

The association went into the Homestead conflict, which was a mixed strike and lockout, with its affairs thoroughly systematized. It also had the prestige of a successful order, and was in possession of a satisfactory bank account. The contest was waged really more largely for the purpose of securing recognition than for any other reason. The question of wages and prices existed, but that question was subordinated; and the determination, on the one hand, to break the influence of the Amalgamated Association, and on the other to crystallize and preserve it, formed the real question at issue. The impairment of the association left it in a weakened condition, and it has never since regained the full strength that it had at the beginning of 1892.

The second great contest in which the Amalgamated Association participated was the steel strike of the year 1901, which was begun on the first day of July by the sheet steel workers alone, the American Sheet Steel Company having failed to sign the scale. On the 29th of June a general strike of the sheet steel workers was ordered, and it lasted until September 15, when work was resumed in accordance with the settlement made September 18.*

* In the preparation of this account I have depended largely upon information from original sources, although I have had the benefit of some excellent academic discussions, notably the following: "The Strike of the Steel

The story of the recent steel strike has not been fully told, but it can now be briefly recited. In the early part of 1900 the Amalgamated Association organized a non-union mill at Wood's Sheet Mill, McKeesport, Pennsylvania. In February, 1901, the American Sheet Steel officials, learning what had been done at Wood's Sheet Mill, discharged some of the men. This was regarded by the association as an action hostile to organized labor, and at the convention of the Amalgamated Association held in May last it was decided that the association would test the matter by insisting upon scales being signed for all the constituent companies of the United States Steel Corporation. This corporation was a new company, having \$1,404,000,000 capitalization. Its amended certificate was filed at Trenton, New Jersey, February 25, 1901, the constituent companies being the Federal Steel Company, National Steel Company, National Tube Company, American Steel and Wire Company of New Jersey, American Tin Plate Company, American Steel Hoop Company, American Sheet Steel Company, American Bridge Company, and Lake Superior Consolidated Iron Mines. The corporation also controls the Shelby Steel Company. Instead, then, of having for its opponent the American Sheet Steel Company, which had discharged some of the Amalgamated's men in February, the association found itself the antagonist of the great and powerful United States Steel Corporation.

The demand to have the scale signed for all the constituent companies of the great Steel Corporation was refused, the result being that the Amalgamated Association put into operation Section 23 of Article 17 of its constitution, which reads as follows: "Should one mill in a combine or trust have a difficulty, all mills in said combine or trust shall cease work until such grievance is settled." Roughly estimated, this action affected 100,000 persons.

Workers," by Dr. Talcott Williams, in the *Review of Reviews* for September, 1901, and articles in *Gunton's Magazine* for August, September, October, and November, 1901.

On the 29th of June the joint conference committee of the Amalgamated Association and the American Sheet Steel Company were unable to reach an agreement on the wage scale for the ensuing year, and adjourned finally after a session of less than twenty minutes. The demand for an advance in wages was conceded; and Mr. Persifor F. Smith, for the American Sheet Steel Company, offered to sign for 21 mills, accepted in the past as union mills, out of 28 mills controlled by the company. The Amalgamated refused to sign for any unless all were accepted as union; while Mr. Smith insisted upon his refusal to make signature for mills that had been non-union in the past, claiming in addition that two of these mills,—the Saltsburg and Old Meadow,—which had been union, had abandoned the Amalgamated Association, and later on this position was conceded.

Another issue was brought forward,—as to whether any change from the old individual way of making bargains to collective bargaining could be insisted upon, under threat of a strike, for mills in question as well as for all the mills under the control of the American Sheet Steel Company. The Amalgamated Association had a perfect right to require that a collective bargain should be made for such mills as it might designate, while the company insisted that its right to decide whether it would have individual instead of collective bargaining ought not to be questioned.

There were controversies relative to the mills controlled by the American Steel Hoop Company, which was ready, as it is understood, to agree to the sliding scale for mills that had been union, but refused to adopt such scales for mills that had been non-union in past years. The demand of the association was accompanied by a refusal to sign for any unless for all mills, with a strike in all as the alternative.

The issues were thus very clearly defined; and, no

agreement being reached, on the 29th of June the officers of the Amalgamated Association declared a strike for the sheet steel workers alone, which began on the first day of July. It was a contest for recognition of the right of the association to demand the unionizing of mills, a demand which was positively refused by the United States Steel Corporation. The questions of wages and of hours of labor, as stated, were not involved; and there were no grievances. It was clearly a conflict on the demand for recognition in the trade-union sense. It was the first great struggle that was conducted solely on this issue. The issue as to the recognition of organized labor has been contested many times, but usually in conjunction with some grievance or a demand as to wages or some other economic condition.

Unfortunately for the Amalgamated Association, it had not entirely recovered from the effects of the Homestead affair; and its managers did not recognize a position which most economists at the present time clearly understand,—the power of a labor organization successfully to stand a brief delay easier than capital, loaded down with contracts and responsibilities to buyers, conditions which lead to serious apprehension as the result of temporary interruption in production, but once the issue is joined, and business adjustments arranged in accordance with the anticipated delay, the employer can meet the stress resulting from an extended contest very much better than organized labor. Almost any great strike can be weakened, and ultimately broken, where there are time and money enough at the disposal of the corporation involved.

The Amalgamated Association was, therefore, stronger than the corporation prior to the ordering of the strike. Whatever demands it had put forward prior to the issues raised in June had been accepted, and there had been no objection to the organization of lodges in many of the non-union mills after they had become the property of

the United States Steel Corporation; but the attempt on the part of the Amalgamated Association to change the status of these mills was an attempt which met with a resistance so powerful that there was but one conclusion to be anticipated.

Both parties put forward claims they could not substantiate, each claiming more than it could control. The natural result of such a situation was a compromise, and this was proposed. The dispute involved 12 mills in all, in different constituent companies. The Steel Corporation offered to sign for 4 of them. The Amalgamated at the conference of July 11-13 demanded all or none, and on the 15th of July the general call for a strike was obeyed by departments other than those connected with the sheet steel workers and those of the Federal Steel Company.

Several conferences, the accounts of which are varied and interesting, were held between the officers of the corporation and the association, aided by friends of conciliatory methods, at intervals during the summer. The United States Steel Corporation did not refuse to confer with the officers of the Amalgamated Association, nor did it decline to submit or receive propositions in the interest of organized workers in the steel industry. About the middle of July a conference was held in New York, when the terms offered to the striking employees, involving the opening of all mills to non-union men as an offset to permitting the association to organize the men in the mills not then organized, were rejected, although it is currently reported that they were at first agreed to. That proposition, however, was not a very definite one. So far as the writer can ascertain, it was simply an agreement to submit the matters in controversy to the executive board of the Amalgamated Association. The result of a conference, which was held July 27, was put in writing by the president and secretary of the Amalgamated Association and Messrs. Morgan, Schwab, and Geary of the Steel

Corporation. Messrs. Shaffer and Williams agreed that immediately upon their return to Pittsburg they would call a meeting of the executive board of the Amalgamated Association to submit the agreement proposed by the Steel Corporation to said board, with the assurances given, and with such statements and reasons which might occur to them in favor of its approval. The executive board did not act favorably at this juncture, and the strike was continued.

The executive board of the Amalgamated went to New York August 3, and had a more extended interview with Mr. Morgan, Mr. Schwab, and others of the United States Steel Corporation. The terms of settlement discussed at this conference were: first, the strikers to withdraw their demand that employees in non-union mills be compelled to join the union; second, the steel companies to agree not to discharge any workers because of membership in the union or because of efforts to organize unions in the non-union mills; third, the wage scale agreed upon with the association to be the minimum scale in all mills, but the corporation to have the right of making special wage contracts at non-union mills, and the union scale not to be signed for those mills; fourth, all mills of all the companies to be open to any steel workers, whether members of the union or not.* The officers of the Amalgamated would not accept the latter clause, and so the conference came to naught.

August 6 the president of the Amalgamated Association issued a call upon all Amalgamated and other union men, in name and in heart, to join in its movement to fight for labor's rights.

During the conference on the 27th of July it is understood that Mr. Morgan asserted that he was not hostile to organized labor; that he looked upon it with favor, to the extent that he preferred the well-organized and admin-

*See *Gunton's Magazine*, September, 1901, p. 195.

istered trade union as the medium through which contracts for wages and other conditions of employment could be made rather than the chaotic and unreliable results following arrangements with individual workmen. He insisted that the Amalgamated Association ought not to attempt to drive him further than it was possible for him to go, assuring the officers that in the course of time, perhaps two years, his company would be ready to sign for all its constituent plants.*

On the contrary, it is claimed by the officers of the Amalgamated Association that they were willing to submit matters to the adjustment of others or to make some concessions that might lead to a settlement, as appears in the following letter of August 8 to John Stevenson, Esq., signed by Mr. Shaffer, the president of the association, Mr. Williams, its secretary, and Mr. Davis and Mr. Tighe, all constituting the advisory board:—

The undersigned, the Advisory Board of the Amalgamated Association of Iron, Steel, and Tin Workers of the United States, desire to express our appreciation of your disinterested efforts to end the unpleasant controversy existing between the United States Steel Company and our association.

In regard to the suggestion that our association agree to arbitrate the matters involved in the controversy with that company, we beg leave to say that, with a full realization of the great interests committed to our care and the general welfare of all, as well as our desire for industrial peace, we have agreed to accept your suggestion, and submit the following as a basis therefor:—

The United States Steel Company and the Amalgamated Association agree to arbitrate all matters in dispute.

The Board of Arbitration shall consist of three persons,—one selected by the company and the association respectively, and the third to be selected by the two persons named.

Upon the agreement of the United States Steel Company to the above, the company and the association shall, within three hours after being notified by you, name the respective representatives to constitute the members of the Board of Arbitration.

*Mr. Samuel Gompers, in the *American Federationist* for October, 1901, p. 428, says that Mr. Schwab informed him that the above statement was made by Mr. Morgan to Mr. Shaffer at the conference of July 27.

The Board of Arbitration shall meet within twenty-four (24) hours, at such place as shall be designated by you.

Both the United States Steel Company and the Amalgamated Association of Iron, Steel, and Tin Workers agree to faithfully abide by the decision of the arbitrators.

We would respectfully suggest that the arbitrators meet in Philadelphia or Washington, D.C.

The foregoing letter was the result of a conference in Pittsburg between the officers of the Amalgamated Association, the president of the American Federation of Labor, and others. The letter to Mr. Stevenson, however, came to naught. Further attempts were made early in September, and finally, on the 4th, Messrs. John Mitchell, Samuel Gompers, Frank P. Sargent, J. W. Jenks, Henry White, and Ralph M. Easley, who had been interesting themselves to secure terms of settlement between the contending forces, met the representatives of the United States Steel Corporation in New York; and this committee secured from the Steel Corporation, in brief, the following terms:—

No discrimination against the re-employment of any one by the company by reason of his connection with the strike, and no question asked as to the membership of any man in the union.

The signing of the agreement for all mills which were union last year, except Old Meadow, Saltsburg, Hyde Park, Crescent, Irondale, Chester, Cambridge, Star, and Monessen. The Canal, Dover, and Demmler Mills were to be signed for as union mills.

These terms were objected by the officers of the association.

After more discussion and a recognition of the fact that the strikers were losing ground, an agreement was made with Mr. Shaffer September 13, the substance of which is as follows:—

Non-union mills shall be represented as such. No attempt made to organize, no charters granted; old charters retained by men, if they desire.

The company reserves the right to discharge any employee who

shall by interference, abuse, or constraint prevent another from peaceably following his vocation, without reference to connection with labor organizations.

Canal, Dover, Demmler, Old Meadow, Saltaburg, Hyde Park, Crescent, Irondale, Chester, Cambridge, Star, and Monessen not included as union mills.

In accordance with these terms the strike was declared off, and work was resumed September 15. It was a disastrous experience. In many respects one of the most remarkable strikes of modern times, it was nevertheless conducted without any of the dramatic and tragic circumstances which attended the Homestead affair in 1892. At the beginning of the strike of 1901 the Amalgamated Association had many points of advantage; but the strike was a defeat, and a serious one at that. It did not have the hearty indorsement of a large number of workmen. It was not a movement to redress any grievance. It was fought for a principle, but the movers did not consider the power against which they were obliged to contend.

The Amalgamated does not to-day have the power in the steel trade that it had at the beginning of the contest. Instead of having all the mills organized that it then had, it has lost nine union works. But the association will profit by its experience now, as it did by its experience in 1892. It reckoned also in 1901 on the hope that a general strike might be declared on the part of other labor organizations, and especially by the American Federation of Labor, with which it is affiliated. These hopes were not realized, and hence it felt compelled to make the settlement agreed upon September 13. The result has led to some bitterness as between individuals, but this has no relation to the history of the affair.

It will take many years to recover the strength that has been lost. It is claimed by officers of the association that, as some of the mills which were non-union prior to the strike have retained their charters, the result is a

greater number of lodges and increased membership in the association. There certainly had been a steady gain in the number of lodges and members for a few years prior to the convention of May, 1901. In all probability, therefore, the association will recover, so far as membership is concerned, its position at the beginning of this year. Whether or not its influence will be regained depends upon the wisdom of its administration.

The United States Steel Corporation, being desirous of minimizing the recurrence of strikes, has requested a three years' scale; but this matter will have to be decided at the next convention, the proceedings of which will be watched with great interest, for undoubtedly the delegates will take up matters of vital importance to the association.

The cost of the strike of 1901 cannot be accurately gauged at the present time, but it is estimated by officers of the association that the number of men out of employment during the strike averaged 30,000. There were at times very many more than this out of work. It is also estimated that the wages of the 30,000 men on strike would average \$3 per day. These estimates seem to be fairly conservative. Taking them for a basis, there must have been a loss of more than \$4,000,000 through the duration of the strike. The officers of the steel company have claimed in the public press that they experienced no great loss as the result of the strike.

The Amalgamated Association finds itself facing new conditions, and it must adapt itself to their influences. All the facts relating to the strike indicate the necessity of organization, but the results growing out of the experience of the past summer cannot now be foretold. The philosophy of events will be watched with great interest by all students of economics.

CARROLL D. WRIGHT.

GUSTAV SCHMOLLER'S ECONOMICS.

PROFESSOR SCHMOLLER'S *Grundriss** is an event of the first importance in economic literature. It appears from later advices that the second and concluding volume of the work is hardly to be looked for at as early a date as the author's expressions in his preface had led us to anticipate. What lies before Professor Schmoller's readers, therefore, in this first volume of the Outlines is but one-half of the compendious statement which he here purposes making of his theoretical position and of his views and exemplification of the scope and method of economic science. It may accordingly seem adventurous to attempt a characterization of his economic system on the basis of this avowedly incomplete statement. And yet such an endeavor is not altogether gratuitous, nor need it in any great measure proceed on hypothetical grounds. The introduction comprised in the present volume sketches the author's aim in an outline sufficiently full to afford a convincing view of the "system" of science for which he speaks; and the two books by which the introduction is followed show Professor Schmoller's method of inquiry consistently carried out, as well as the reach and nature of the theoretical conclusions which he considers to lie within the competency of economic science. And with regard to an economist who is so much of an innovator, — not to say so much of an iconoclast, — and whose work touches the foundations of the science so intimately and profoundly, the interest of his critics and associates must, at least for the present, centre chiefly about these questions as to the scope and nature assigned to the theory by his discussion, as to the range and character of the material of which he makes use, and as to the methods of inquiry

* *Grundriss der allgemeinen Volkswirtschaftslehre. Erster Teil. Leipzig, 1900.*

which his sagacity and experience commend. So, therefore, while the *Outlines* is yet incomplete, considered as a compendium of details of doctrine, the work in its unfinished state need not thereby be an inadequate expression of Professor Schmoller's relation to economic science.

Herewith for the first time economic readers are put in possession of a fully advised deliverance on economic science at large as seen and cultivated by that modernized historical school of which Professor Schmoller is the authoritative exponent. Valuable and characteristic as his earlier discussions on the scope and method of the science are, they are but preliminary studies and tentative formulations as compared with this maturer work, which not only avows itself a definitive formulation, but has about it an air of finality perceptible at every turn. But this comes near saying that it embodies the sole comprehensive working-out of the scientific aims of the historical school. Discussions partially covering the field, monographs and sketches there are in great number, showing the manner of economic theory that was to be looked for as an outcome of the "historical diversion." Some of these, especially some of the later ones, are extremely valuable in the results they offer, as well as significant of the trend which the science is taking under the hands of the German students.* But a comprehensive work, aiming to formulate a body of economic theory on the basis afforded by the "historical method," has not hitherto been seriously attempted.

To the broad statement just made exception might perhaps be taken in favor of Schaeffle's half-forgotten work of the seventies, together possibly with several other less notable and less consistent endeavors of a similar kind, dating back to the early decades of the school. Probably none of the younger generation of economists

* E.g., K. Bücher's *Entstehung der Volkswirtschaft* and *Arbeit und Rythmus*, R. Hildebrand's *Recht und Sitte*, Knapp's *Grundherrschaft und Rittergut*, Ehrenberg's *Zeitalter der Fugger*, R. Mücke's various works.

would be tempted to cite Roscher's work as invalidating such a statement as the one made above. Although time has been allowed for the acceptance and authentication of these endeavors of the earlier historical economists in the direction of a system of economic theory,—that is to say, of an economic science,—they have failed of authentication at the hands of the students of the science; and there seems no reason to regard this failure as less than definitive.

During the last two decades the historical school has branched into two main directions of growth, somewhat divergent, so that broad general statements regarding the historical economists can be less confidently made to-day than perhaps at any earlier time. Now, as regards the more conservative branch, the historical economists of the stricter observance,—these modern continuers of what may be called the elder line of the historical school can scarcely be said to cultivate a science at all, their aim being not theoretical work. Assuredly, the work of this elder line, of which Professor Wagner is the unquestioned head, is by no means idle. It is work of a sufficiently important and valuable order, perhaps it is indispensable to the task which the science has in hand, but, broadly speaking, it need not be counted with in so far as it touches directly upon economic theory. This elder line of German economics, in its numerous modern representatives, shows both insight and impartiality; but as regards economic theory their work bears the character of eclecticism rather than that of a constructive advance. Frequent and peremptory as their utterances commonly are on points of doctrine, it is only very rarely that these utterances embody theoretical views arrived at or verified by the economists who make them or by such methods of inquiry as are characteristic of these economists. Where these expressions of doctrine are not of the nature of maxims of expediency, they are, as is well known, com-

monly borrowed somewhat uncritically from classical sources. Of constructive scientific work — that is to say, of theory — this elder line of German economics is innocent; nor does there seem to be any prospect of an eventual output of theory on the part of that branch of the historical school, unless they should unexpectedly take advice, and make the scope, and therefore the method, of their inquiry something more than historical in the sense in which that term is currently accepted. The historical economics of the conservative kind seems to be a barren field in the theoretical respect.

So that whatever characteristic articles of general theory the historical school may enrich the science with are to be looked for at the hands of those men who, like Professor Schmoller, have departed from the strict observance of the historical method. A peculiar interest, therefore, attaches to his work as the best accepted and most authoritative spokesman of that branch of historical economics which professes to cultivate theoretical inquiry. It serves to show in what manner and degree this more scientific wing of the historical school have outgrown the original "historical" standpoint and range of conceptions, and how they have passed from a distrust of all economic theory to an eager quest of theoretical formulations that shall cover all phenomena of economic life to better purpose than the body of doctrine received from the classical writers and more in consonance with the canons of contemporary science at large. That this should have been the outcome of the half-century of development through which the school has now passed might well seem unexpected, if not incredible, to any who saw the beginning of that divergence within the school, a generation ago, out of which this modernized, theoretical historical economics has arisen.

Professor Schmoller entered the field early, in the sixties, as a protestant against the aims and ideals then

in vogue in economics. His protest ran not only against the methods and results of the classical writers, but also against the views professed by the leaders of the historical school, both as regards the scope of the science and as regards the character of the laws or generalizations sought by the science. His early work, in so far as he was at variance with his colleagues, was chiefly critical; and there is no good evidence that he then had a clear conception of the character of that constructive work to which it has been his persistent aim to turn the science. Hence he came to figure in common repute as an iconoclast and an extreme exponent of the historical school, in that he was held practically to deny the feasibility of a scientific treatment of economic matters and to aim at confining economics to narrative, statistics, and description. This iconoclastic or critical phase of his economic discussion is now past, and with it the uncertainty as to the trend and outcome of his scientific activity.

To understand the significance of the diversion created by Professor Schmoller as regards the scope and method of economics, it is necessary, very briefly, to indicate the position occupied by that early generation of historical economists from which his teaching diverged, and more particularly those points of the older canon at which he has come to differ characteristically from the views previously in vogue.

As regards the situation in which the historical school, as exemplified by its leaders, was then placed, it is, of course, something of a commonplace that by the end of its first twenty years of endeavor in the reform of economic science the school had, in point of systematic results, scarcely got beyond preliminaries. And even these preliminaries were not in all respects obviously to the purpose. A new and wider scope had been indicated

for economic inquiry, as well as a new aim and method for theoretical discussion. But the new ideals of theoretical advance, as well as the ways and means indicated for their attainment, still had mainly a speculative interest. Nothing substantial had been done towards the realization of the former or the *mise en œuvre* of the latter. The historical economists can scarcely be said at that time to have put their hand to the new engines which they professed to house in their workshop. Apart from polemics and speculation concerning ideals, the serious interest and endeavors of the school had up to that time been in the field of history rather than in that of economics, except so far as the adepts of the new school continued in a fragmentary way to inculcate and, in some slight and uncertain degree, to elaborate the dogmas of the classical writers whom they sought to discredit.

The character of historical economics at the time when Professor Schmoller entered on his work of criticism and revision is fairly shown by Roscher's writings. Whatever may be thought to-day of Roscher's rank as an economist, in contrast with Knies and Hildebrand, it will scarcely be questioned that at the close of the first quarter-century of the life history of the historical school it was Roscher's conception of the scope and method of economics that found the widest acceptance and that best expressed the animus of that body of students who professed to cultivate economics by the historical method. For the purpose in hand Roscher's views may, therefore, be taken as typical, all the more readily since for the very general purpose here intended there are no serious discrepancies between Roscher and his two illustrious contemporaries. The chief difference is that Roscher is more *naïve* and more specific. He has also left a more considerable volume of results achieved by the professed use of his method.

Roscher's professed method was what he calls the "historico-physiological" method. This he contrasts with the

"philosophical" or "idealistic" method. But his air of depreciation as regards "philosophical" methods in economics must not be taken to mean that Roscher's own economic speculations were devoid of all philosophical or metaphysical basis. It only means that his philosophical postulates were different from those of the economists whom he discredits, and that they were regarded by him as self-evident.

As must necessarily be the case with a writer who had neither a special aptitude for nor special training in philosophical inquiries, Roscher's metaphysical postulates are, of course, chiefly tacit. They are the common-sense, commonplace metaphysics afloat in educated German circles in the time of Roscher's youth, — during the period when his growth and education gave him his outlook on life and knowledge and laid the basis of his intellectual habits; which means that these postulates belong to what Höffding has called the "Romantic" school of thought, and are of a Hegelian complexion. Roscher being not a professed philosophical student, it is neither easy nor safe to particularize closely as regards his fundamental metaphysical tenets; but, as near as so specific an identification of his philosophical outlook is practicable, he must be classed with the Hegelian "Right." But since the Hegelian metaphysics had in Roscher's youth an unbroken vogue in reputable German circles, especially in those ultra-reputable circles within which lay the gentlemanly life and human contact of Roscher, the postulates afforded by the Hegelian metaphysics were accepted simply as a matter of course, and were not recognized as metaphysical at all. And in this his metaphysical affiliation Roscher is fairly typical of the early historical school of economics.

The Hegelian metaphysics, in so far as bears upon the matter in hand, is a metaphysics of a self-realizing life process. This life process, which is the central and substantial fact of the universe, is of a spiritual nature,—

"spiritual," of course, being here not contrasted with "material." The life process is essentially active, self-determining, and unfolds by inner necessity,—by necessity of its own substantially active nature. The course of culture, in this view, is an unfolding (exfoliation) of the human spirit; and the task which economic science has in hand is to determine the laws of this cultural exfoliation in its economic aspect. But the laws of the cultural development with which the social sciences, in the Hegelian view, have to do are at one with the laws of the processes of the universe at large; and, more immediately, they are at one with the laws of the life process at large. For the universe at large is itself a self-unfolding life process, substantially of a spiritual character, of which the economic life process which occupies the interest of the economist is but a phase and an aspect. Now, the course of the processes of unfolding life in organic nature has been fairly well ascertained by the students of natural history and the like; and this, in the nature of the case, must afford a clew to the laws of cultural development, in its economic as well as in any other of its aspects or bearings,—the laws of life in the universe being all substantially spiritual and substantially at one. So we arrive at a physiological conception of culture after the analogy of the ascertained physiological processes seen in the biological domain. It is conceived to be physiological after the Hegelian manner of conceiving a physiological process, which is, however, not the same as the modern scientific conception of a physiological process.*

*A physiological conception of society, or of the community, had been employed before,—*e.g.*, by the Physiocrats,—and such a concept was reached also by English speculators—*e.g.*, Herbert Spencer—during Roscher's lifetime; but these physiological conceptions of society are reached by a different line of approach from that which led up to the late-Hegelian physiological or biological conception of human culture as a spiritual structure and process. The outcome is also a different one, both as regards the use made of the analogy and as regards the theoretical results reached by its aid.

It may be remarked, by the way, that Neo-Hegelianism, of the "Left,"

Since this quasi-physiological process of cultural development is conceived to be an unfolding of the self-realizing human spirit, whose life history it is, it is of the nature of the case that the cultural process should run through a certain sequence of phases—a certain life history prescribed by the nature of the active, unfolding spiritual substance. The sequence is determined on the whole, as regards the general features of the development, by the nature of life on the human plane. The history of cultural growth and decline necessarily repeats itself, since it is substantially the same human spirit that seeks to realize itself in every comprehensive sequence of cultural development, and since this human spirit is the only factor in the case that has substantial force. In its generic features the history of past cultural cycles is, therefore, the history of the future. Hence the importance, not to say the sole efficacy for economic science, of an historical scrutiny of culture. A well-authenticated sequence of cultural phenomena in the history of the past is conceived to have much the same binding force for the sequence of cultural phenomena in the future as a "natural law," as the term has been understood in physics or physiology, is conceived to have as regards the course of phenomena in the life history of the human body; for the onward cultural course of the human spirit, actively unfolding by inner necessity, is an organic process, following logically from the nature of this self-realizing spirit. If the process is conceived to meet with obstacles or varying conditions, it adapts itself to the circumstances in any

likewise gave rise to a theory of a self-determining cultural exfoliation; namely, the so-called "Materialistic Conception of History" of the Marxian socialists. This Marxian conception, too, had much of a physiological air; but Marx and his coadjutors had an advantage over Roscher and his following, in that they were to a greater extent schooled in the Hegelian philosophy, instead of being uncritical receptacles of the Romantic commonplaces left by Hegelianism as a residue in popular thought. They were therefore more fully conscious of the bearing of their postulates and less naïve in their assumptions of self-sufficiency.

given case, and it then goes on along the line of its own logical bent until it eventuates in the consummation given by its own nature. The environment, in this view, if it is not to be conceived simply as a function of the spiritual force at work, is, at the most, of subsidiary and transient consequence only. Environmental conditions can at best give rise to minor perturbations; they do not initiate a cumulative sequence which can profoundly affect the outcome or the ulterior course of the cultural process. Hence the sole, or almost sole, importance of historical inquiry in determining the laws of cultural development, economic or other.

The working conception which this romantic-historical school had of economic life, therefore, is, in its way, a conception of development, or evolution; but it is not to be confused with Darwinism or Spencerianism. Inquiry into the cultural development under the guidance of such preconceptions as these has led to generalizations, more or less arbitrary, regarding uniformities of sequence in phenomena, while the causes which determine the course of events and which make the uniformity or variation of the sequence have received but scant attention. The "natural laws" found by this means are necessarily of the nature of empiricism, colored by the bias or ideals of the investigator. The outcome is a body of aphoristic wisdom, perhaps beautiful and valuable after its kind, but quite fatuous when measured by the standards and aims of modern science. As is well known, no substantial theoretical gain was made along this romantic-historical line of inquiry and speculation, for the reason, apparently, that there are no cultural laws of the kind aimed at, beyond the unprecise generalities that are sufficiently familiar beforehand to all passably intelligent adults.

It has seemed necessary to offer this much in characterization of that "historical" aim and method which af-

forded a point of departure for Professor Schmoller's work of revision. When he first raised his protest against the prevailing ideals and methods, as being ill-advised and not thorough-going, he does not seem himself to have been entirely free from this Romantic, or Hegelian, bias. There is evidence to the contrary in his early writings.* It cannot even be said that his later theoretical work does not show something of the same animus, as, *e.g.*, when he assumes that there is ameliorative trend in the course of cultural events.† What has differentiated his work from that of the group of writers which has above been called the elder line of historical economics is the weakness or relative absence of this bias in his theoretical work. Particularly, he has refused to bring his researches in the field of theory definitively to rest on ground given by the Hegelian, or Romantic, school of thought. He was from the first unwilling to accept classificatory statements of uniformity or of normality as an adequate answer to questions of scientific theory. He does not commonly deny the truth or the importance of the empirical generalizations aimed at by the early historical economists. Indeed, he makes much of them and has been notoriously urgent for a full survey of historical data and a painstaking digestion of materials with a view to a comprehensive work of empirical generalization. As is well known, in his earlier work of criticism and methodological controversy he was led to contend that for at least one generation economists must be content to spend their energies on descriptive work of this kind; and he thereby earned the reputation of aiming to reduce economics to a descriptive knowledge of details and to confine its method to the Baconian ground of generalization by simple enumeration. But this exhaustive historical scrutiny and description of detail has always, in Professor Schmoller's

* *E.g.*, in his controversy with Treitschke. See *Grundfragen der Socialpolitik und der Volkswirtschaftslehre*, particularly pp. 24, 25.

† *E.g.*, *Grundriss*, pp. 225, 409, 411.

view, been preliminary to an eventual theory of economic life. The survey of details and the empirical generalizations reached by its help are useful for the scientific purpose only as they serve the end of an eventual formulation of the laws of causation that work out in the process of economic life. The ulterior question, to which all else is subsidiary, is a question of the causes at work rather than a question of the historical uniformities observable in the sequence of phenomena. The scrutiny of historical details serves this end by defining the scope and character of the several factors causally at work in the growth of culture, and, what is of more immediate consequence, as they are at work in the shaping of the economic activities and the economic aims of men engaged in this unfolding cultural process as it lies before the investigator in the existing situation.

In the preliminary work, then, of defining and characterizing the causes or factors of economic life, historical investigation plays a large, if not the largest, part; but it is by no means the sole line of inquiry to which recourse is had for this purpose. Nor, it may be added, is this the sole use of historical inquiry. To the like end a comparative study of the climatic, geographical, and geological features of the community's environment is drawn into the inquiry; and more particularly there is a careful study of ethnographic parallels and a scrutiny of the psychological foundations of culture and the psychological factors involved in cultural change.

Hence it appears that Professor Schmoller's work differs from that of the elder line of historical economics in respect of the scope and character of the preliminaries of economic theory no less than in the ulterior aim which he assigns the science. It is only by giving a very broad meaning to the term that this latest development of the science can be called an "historical" economics. It is Darwinian rather than Hegelian, although with the ear-marks

of Hegelian affiliation visible now and again; and it is "historical" only in a sense similar to that in which a Darwinian account of the evolution of economic institutions might be called historical. For the distinguishing characteristic of Professor Schmoller's work, that wherein it differs from the earlier work of the economists of his general class, is that it aims at a Darwinistic account of the origin, growth, persistence, and variation of institutions, in so far as these institutions have to do with the economic aspect of life either as cause or as effect. In much of what he has to say, he is at one with his contemporaries and predecessors within the historical school; and he shows at many points both the excellences and weaknesses due to his "historical" antecedents. But his striking and characteristic merits lie in the direction of a post-Darwinian, causal theory of the origin and growth of species in institutions. In this line of theoretical inquiry Professor Schmoller is not alone, nor does he, perhaps, go so far or with such singleness of purpose in this direction as some others do at given points; but the seniority belongs to him, and he is also in the lead as regards the comprehensiveness of his work.

But to return to the *Grundriss*, to which recourse must be had to substantiate the characterization here offered. The entire work as projected comprises an Introduction and four Books, of which the introduction and the first two books are contained in the volume already published. The two books yet to be published, in a second volume, promise to be of a length corresponding to the first two. The present volume should accordingly contain approximately three-fifths of the whole, counted by bulk. The scheme of the work is as follows: An Introduction (pp. 1-124) treats of (1) the Concept of Economics, (2) the Psychological, Ethical (or Conventional, *sittliche*), and Legal Foundations of Economic Life and of Culture, and (3) the

Literature and Method of the Science. This is followed by Book I. (pp. 125-228), on Land, Population, and the Industrial Arts, considered as collective phenomena and factors in economic life, and Book II. (pp. 229-457), on the Constitution of Economic Society, its chief organs and the causal factors to which they are due. Books III. and IV. are to deal with the Circulation of Goods and the Distribution of Income, and to give a genetic account of the Development of Economic Society.

The course outlined differs noticeably from what has been customary in treatises on economics. The point of departure is a comprehensive general survey of the factors which enter into the growth of culture, with special reference to their economic bearing. This survey runs chiefly on psychological and ethnographic ground, historical inquiry in the stricter sense being relatively scant and obviously of secondary consequence. It is followed up with a more detailed and searching discussion of the factors engaged in the economic process in any given situation. The factors, or "collective phenomena," in question are not the time-honored Land, Labor, and Capital, but rather population, material environment, and technological conditions. Here, too, the discussion has to do with ethnographic rather than with properly historical material. The question of population concerns not the numerical force of laborers, but rather the diversity of race characteristics and the bearing of race endowment upon the growth of economic institutions. The discussion of the material environment, again, has relatively little to say of the fertility of the soil, and gives much attention to diversities of climate, geographical situation, and geological and biological conditions. And this first book closes with a survey of the growth of technological knowledge and the industrial arts.

In all this the significant innovation lies not so much in the character of the details. They are for the most

part commonplace enough as details of the sciences from which they are borrowed. They are shrewdly chosen and handled in such a way as to bring out their bearing upon the ulterior questions about which the economist's interest centres; but there is, as might be expected, little attempt to go back of the returns given by specialists in the several lines of research that are laid under contribution. But the significance of it all lies rather in the fact that material of this kind should have been drawn upon for a foundation for economic theory, and that it should have seemed necessary to Professor Schmoller to make this introductory survey so comprehensive and so painstaking as it is. Its meaning is that these features of human nature and these forces of nature and circumstances of environment are the agencies out of whose interaction the economic situation has arisen by a cumulative process of change, and that it is this cumulative process of development, and its complex and unstable outcome, that are to be the economist's subject-matter. The theoretical outcome for which such a foundation is prepared is necessarily of a genetic kind. It necessarily seeks to know and explain the structure and functions of economic society in terms of how and why they have come to be what they are, not, as so many economic writers have explained them, in terms of what they are good for and what they ought to be. It means, in other words, a deliberate attempt to substitute an inquiry into the efficient causes of economic life in the place of empirical generalizations, on the one hand, and speculations as to the eternal fitness of things, on the other hand.

It follows from the nature of the case that an economics of this genetic character, working on grounds of the kind indicated, comprises nothing in the way of advice or admonition, no maxims of expediency, and no economic, political, or cultural creed. How nearly Professor Schmoller conforms to this canon of continence is

another question. The above indicates the scope of such doctrines as are consistently derivable from the premises with which the work under review starts out, not the scope of its writer's speculations on economic matters.

The second book, by the help of prehistoric and ethnographic material as well as history, deals with the evolution of the methods of social organization, — the growth of institutions in so far as this growth shapes or is shaped by the exigencies of economic life. The "organs," or social-economic institutions, whose life history is passed in review are: the family; the methods of settlement and domicile, in town and country; the political units of control and administration; differentiation of functions between industrial and other classes and groups; ownership, its growth and distribution; social classes and associations; business enterprise, industrial organizations and corporations.

As regards the singleness of purpose with which Professor Schmoller has carried out the scheme of economic theory for which he has sketched the outlines and pointed the way, it is not possible to speak with the same confidence as of his preliminary work. It goes without saying that this further work of elaboration is excellent after its kind; and this excellence, which was to be looked for at Professor Schmoller's hands, may easily divert the reader's attention from the shortcomings of the work in respect of kind rather than of quality. Now, while a broad generalization on this head may be hazardous and is to be taken with a large margin, still, with due allowance, the following generalization will probably stand so far as regards this first volume. So long as the author is occupied with the life history of institutions down to contemporary developments, so long his discussion proceeds by the dry light of the scientific interest simply, as the term "scientific" is understood among the modern adepts of the natural sciences; but so soon as he comes to close quarters with

the situation of to-day, and reaches the point where a dispassionate analysis and exposition of the causal complex at work in contemporary institutional changes should begin, so soon the scientific light breaks up into all the colors of the rainbow, and the author becomes an eager and eloquent counsellor, and argues the question of what ought to be and what modern society must do to be saved. The argument at this point loses the character of a genetic explanation of phenomena, and takes on the character of appeal and admonition, urged on grounds of expediency, of morality, of good taste, of hygiene, of political ends, and even of religion. All this, of course, is what we are used to in the common run of writers of the historical school; but those students whose interest centres in the science rather than in the ways and means of maintaining the received cultural forms of German society have long fancied they had ground to hope for something more to the purpose when Professor Schmoller came to put forth his great systematic work. Brilliant and no doubt valuable in its way and for its end, this digression into homiletics and reformatory advice means that the argument is running into the sands just at the stage where the science can least afford it. It is precisely at this point, where men of less years and breadth and weight would find it difficult to hold tenaciously to the course of cause and effect through the maze of jarring interests and sentiments that make up the contemporary situation, — it is precisely at this point that a genetic theory of economic life most needs the guidance of the firm, trained, dispassionate hand of the master. And at this point his guidance all but fails us.

What has just been said applies generally to Professor Schmoller's treatment of contemporary economic development, and it should be added that it applies at nearly all points with more or less of qualification. But the qualifications required are not large enough to belie the gen-

eral characterization just offered. It would be asking too large an indulgence to follow the point up in this place through all the discussions of the volume that fairly come under this criticism. The most that may be done is to point for illustration to the handling which two or three of the social-economic "organs" receive. So, for instance, Book II. opens with an account of the family and its place and function in the structure of economic society. The discussion proceeds along the beaten paths of ethnographic research, with repeated and well-directed recourse to the psychological knowledge that Professor Schmoller always has well in hand. Coming down into recent times, the discussion still proceeds to show how the large economic changes of late mediæval and early modern times acted to break down the patriarchal régime of the earlier culture; but at the same time there comes into sight (pp. 245-249) a bias in favor of the recent as against the earlier form of the household. The author is no longer content to show the exigencies which set the earlier patriarchal household aside in favor of the modified patriarchal household of more recent times. He also offers reasons why the later, modified form is intrinsically the more desirable; reasons, it should perhaps be said, which may be well taken, but which are beside the point so far as regards a scientific explanation of the changes under discussion.

The closing paragraphs of the section (91) dwell with a kindly insistence on the many elements of strength and beauty possessed by the form of household organization handed down from the past generation to the present. The facts herewith recited by the author are, no doubt, of weight, and must be duly taken account of by any economist who ventures on a genetic discussion of the present situation and the changing fortunes of the received household. But Professor Schmoller has failed even to point out in what manner these elements of

strength and beauty have in the recent past or may in the present and immediate future causally affect the fortunes of the institution. The failure to turn the material in question to scientific account becomes almost culpable in Professor Schmoller, since there are few, if any, who are in so favorable a position to outline the argument which a theoretical account of the situation at this point must take. Plainly, as shown by Professor Schmoller's argument, economic exigencies are working an incessant cumulative change in the form of organization of the modern household; but he has done little towards pointing out in what manner and with what effect these exigencies come into play. Neither has he gone at all into the converse question, equally grave as a question of economic theory, of how the persistence, even though qualified, of the patriarchal family has modified and is modifying economic structure and function at other points and qualifying or accentuating the very exigencies themselves to which the changes wrought in the institution are to be traced. Plainly, too, the strength and beauty of the traditionally received form of the household — that is to say, the habits of life and of complacency which are bound up with this household — are elements of importance in the modern situation as affects the degree of persistence and the direction of change which this institution shows under modern circumstances. They are psychological facts, facts of habit and propensity and spiritual fitness, the efficiency of which as live forces making for survival or variation is in this connection probably second to that of no other factors that could be named. We had, therefore, almost a right to expect that Professor Schmoller's profound and comprehensive erudition in the fields of psychology and cultural growth should turn these facts to better ends than a preachment concerning an intrinsically desirable consummation.

Regarding the present visible disintegration of the fam-

ily, and the closely related "woman question," Professor Schmoller's observations are of much the same texture. He notes the growing disinclination to the old-fashioned family life on the part of the working population, and shows that there are certain economic causes for this growth or deterioration of sentiment. What he has to offer is made up of the commonplaces of latter-day social-economic discussion, and is charged with a strong undertone of deprecation. What the trend of the causes at work to alter or fortify this body of sentiment may be counts for very little in what he says on the present movement or on the immediate future of the institution. The best he has to offer on the "woman question" is an off-hand reference of the ground of sentiment on which it rests to a recrudescence of the eighteenth century spirit of *égalité*. This notion of the equality of the sexes he refutes in graceful and affecting terms, and he pleads for the unbroken preservation of woman's sphere and man's primacy; as if the matter of superiority or inferiority between the sexes could conceivably be anything more than a conventional outcome of the habits of life imposed upon the community by the circumstances under which they live. How it has come to pass that under the economic exigencies of the past the physical and temperamental diversity between the sexes has been conventionally construed into a superiority of the man and an inferiority of the woman, — on this head he has no more to say or to suggest than on the correlate question of why this conventional interpretation of the facts has latterly not been holding its ancient ground. The discussion of the family and of the relation of the sexes, in modern culture, is marked throughout by unwillingness or inability to penetrate behind the barrier of conventional finality.

The discussion of the family just cited occupies the opening chapter of Book II. For a further instance of Professor Schmoller's handling of a modern economic

problem, reference may be had to the closing chapter of Book I., on the "Development of Technological Expedients and its Economic Significance," but more particularly the sections (84-86) on the modern machine industry (pp. 211-228). In this discussion, also, the point of interest is the attention given to the latter-day phenomena of machine industry, and the author's method and animus in dealing with them. There is (pp. 211-218) a condensed and competent presentation of the main characteristics of the modern "machine age," followed (pp. 218-228) by a critical discussion of its cultural value. The customary eulogy, but with more than the customary discrimination, is given to the advantages of the régime of the machine in point of economy, creature comforts, and intellectual sweep; and it is pointed out how the régime of the machine has brought about a redistribution of wealth and of population and a reorganization and redistribution of social and economic structures and functions. It is pointed out (p. 228) that the gravest social effect of the machine industry has been the creation of a large class of wage laborers. The material circumstances into which this class has been thrown, particularly in point of physical comfort, are dealt with in a sober and discriminating way; and it is shown (p. 224) that in the days of its fuller development the machine's régime has evolved a class of trained laborers who not only live in comfort, but are sound and strong in mind and body. But with the citation of these facts the pursuit of the chain of cause and effect in this modern machine situation comes to an end. The remainder of the space given to the subject is occupied with extremely sane and well-advised criticism, moral and æsthetic, and indications of what the proper ideals and ends of endeavor should be.

Professor Schmoller misses the opportunity he here has of dealing with this material in a scientific spirit and with some valuable results for economic theory. He could, it

is not too bold to assume, have sketched for us an effective method and line of research to be pursued, for instance, in following up the scientific question of what may be the cultural, spiritual effects of the machine's régime upon this large body of trained workmen, and what this body of trained workmen in its turn counts for as a factor in shaping the institutional growth of the present and the economic and cultural situation of to-morrow. Work of this kind, there is reason to believe, Professor Schmoller could have done with better effect than any of his colleagues in the science; for he is, as already noticed above, possessed of the necessary qualifications in the way of psychological training, broad knowledge of the play of cause and effect in cultural growth, and an ability to take a scientific point of view. Instead of this he harks back again to the dreary homiletical waste of the traditional *Historismus*. It seems as if a topic which he deals with as an objective matter so long as it lies outside the sphere of every-day humanitarian and social solicitude, becomes a matter to be passed upon by conventional standards of taste, dignity, morality, and the like, so soon as it comes within the sweep of latter-day German sentiment.

This habit of treating a given problem from these various and shifting points of view at times gives a kaleidoscopic effect that is not without interest. So in the matter of the technically trained working population in the machine industry, to which reference has already been made, something of an odd confusion appears when expressions taken from diverse phases of the discussion are brought side by side. He speaks of this class at one point (p. 224) as "sound, strong, spiritually and morally advancing," superior in all these virtues to the working classes of other times and places. At another point (pp. 250-253) he speaks of the same popular element, under the designation of "socialists," as perverse, degenerate, and reactionary. This latter characterization may

be substantially correct, but it proceeds on grounds of taste and predilection, not on grounds of scientifically determinable cause and effect. And the two characterizations apply to the same elements of population; for the substantial core and tone-giving factor of the radical socialistic element in the German community is, notoriously, just this technically trained population of the industrial towns where the discipline of the machine industry has been at work with least mitigation. The only other fairly isolable element of a radical socialistic complexion is found among the students of modern science. Now, further, in his speculations on the relation of technological knowledge to the advance of culture, Professor Schmoller points out (*e.g.*, p. 226) that a high degree of culture connotes, on the whole, a high degree of technological efficiency, and conversely. In this connection he makes use of the terms *Halbkulturvölker* and *Ganzkulturvölker* to designate different degrees of cultural maturity. It is curious to reflect, in the light of what he has to say on these several heads, that if the socialistically affected, technically trained population of the industrial towns, together with the radical-socialistic men of science, were abstracted from the German population, leaving substantially the peasantry, the slums, and the aristocracy great and small, the resulting German community would unquestionably have to be classed as a *Halbkulturvolk* in Professor Schmoller's scheme. Whereas the elements abstracted, if taken by themselves, would as unquestionably be classed among the *Ganzkulturvölker*.

In conclusion, one may turn to the concluding chapter (Book II., Chapter vii.) of the present volume for a final illustration of Professor Schmoller's method and animus in handling a modern economic problem. All the more so as this chapter on business enterprise better sustains that scientific attitude which the introductory outline leads the reader to look for throughout. It shows how modern

business enterprise is in the main an outgrowth of commercial activity, as also that it has retained the commercial spirit down to the present. The motive force of business enterprise is the self-seeking quest of dividends; but Professor Schmoller shows, with more dispassionate insight than many economists, that this self-seeking motive is hemmed in and guided at all points in the course of its development by considerations and conventions that are not of a primarily self-seeking kind. He is not content to point to the beneficent working of a harmony of interests, but sketches the play of forces whereby a self-seeking business traffic has come to serve the interests of the community. Business enterprise has gradually emerged and come into its present central and dominant position in the community's industry as a concomitant of the growth of individual ownership and pecuniary discretion in modern life. It is therefore a phase of the modern cultural situation; and its survival and the direction of its further growth are therefore conditioned by the exigencies of the modern cultural situation. What this modern cultural situation is and what are the forces, essentially psychological, which shape the further growth of the situation, no one is better fitted to discuss than Professor Schmoller; and he has also given valuable indications (pp. 428-457) of what these factors are and how the inquiry into their working must be conducted. But even here, where a dispassionate tracing-out of the sequence of cause and effect should be easier to undertake, because less readily blurred with sentiment, than in the case, *e.g.*, of the family, the work of tracing the developmental sequence tapers off into advice and admonition proceeding on the assumption that the stage now reached is, or at least should be, final. The attention in the later pages diverges from the process of growth and its conditioning circumstances to the desirability of maintaining the good results attained and to the ways and means of holding fast that which is good in the

outcome already achieved. The question to which an answer is sought in discussing the present phase of the development is not a question as to what is taking place as respects the institution of business enterprise, but rather a question as to what form should be given to an optimistic policy of fostering business enterprise and turning it to account for the common good. At this point, as elsewhere, though perhaps in a less degree than elsewhere, the existing form of the institution is accepted as a finality. All this is disappointing in view of the fact that at no other point do modern economic institutions bear less of an air of finality than in the forms and conventions of business organizations and relations. As Professor Schmoller remarks (p. 455), the scope and character of business undertakings necessarily conform to the circumstances of the time, not to any logical scheme of development from small to great or from simple to complex. So also, one might be tempted to say, the expediency and the chance of ultimate survival of business enterprise is itself an open question, to be answered by a scrutiny of the forces that make for its survival or alteration, not by advice as to the best method of sustaining and controlling it.

What has here been said in criticism of Professor Schmoller's work, particularly as regards his departure from the path of scientific research in dealing with present-day phenomena, may, of course, have to be qualified, if not entirely set aside, when his work is completed with the promised genetic survey of modern institutions to be set forth in the concluding fourth book. Perhaps it may even be said that there is fair hope, on general grounds, of such a consummation; but the present volume does not afford ground for a confident expectation of this kind. It is perhaps needless, perhaps gratuitous, to add that the strictures offered indicate, after all, but relatively slight shortcomings in a work of the first magnitude.

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THE INTEGRATION OF INDUSTRY IN THE UNITED STATES.

In an article entitled "The Concentration of Industry in the United States," contributed to the *Yale Review* for May, 1898, the present writer made the attempt to measure, as far as the then existing statistical data permitted, the undoubted tendency shown by industry in almost all branches of manufacture to become concentrated in fewer and larger establishments. The effort was at the same time made to show the motives dictating this centralization of industrial work, and the social and economic results that might be anticipated from it. In particular was it sought to distinguish clearly between this purely normal progress in the evolution of industry and the abnormal or forced concentration, if the expression may be used, that was taking place through the formation of the so-called trusts.

It is our desire, in the present paper, to call attention to, and comment upon, the significance of another phase of the industrial evolution taking place in the United States, which, though akin to that considered in our former communication, yet possesses features marking it off sharply from that movement. This is the tendency towards what we have designated the integration of industry. It is a tendency which, though it has been at work for some time, has only in very recent years become one of marked prominence. At the present time, however, it constitutes, as it is believed this paper will show, the fundamental force now at work for the reorganization of our industrial system. Through it alone can be established the significance of recent important happenings.

(By integration of industry is meant the knitting together, so as to form one compact harmonious whole, of all the related branches, or all the necessary processes, of any great department of industrial work.) As such, it is evidently a movement quite distinct from that of concentration of industry. (Concentration indicates the bringing together of likes under central management,) as where all the coal mines or all the blast fur-

naces or rolling mills are brought under the control of one or a few parties. [Integration indicates the bringing together of dissimilar, but interdependent, branches of an industry, so that complete harmony may be obtained among them, and the undertaking contain within itself a complete control of all the factors necessary for the successful and uninterrupted prosecution of its work.] This is what takes place when the same management acquires control of such widely dissimilar, but essentially dependent, branches of industrial work as the mining of coal and ore, the operation of railways and steamships for its transportation, the extraction of lime, the working of coke ovens, the manufacture of pig, its conversion into billets, bars, sheets, and what not, and from them the manufacture of wire, nails, rails, tin plate, structural material, or even bridges ready for final consumption. We have given as an illustration probably the most perfect example of integration that has yet taken place, and we shall have occasion to consider it more in detail in another place. The operation of this force, however, can be seen in almost every branch of industrial enterprise. Wherever a brewer decides to make his own barrels or to raise his own hops, wherever a bicycle manufacturer undertakes the manufacture of his own tubing or tires, this tendency may be seen at work.

Our study of this movement, if it is to be at all adequate, should include the three points of: first, a description of the extent to which it has advanced and an account of its more important manifestations; second, an examination of the motives, that are responsible for its rise and progress; and, third, an attempt to determine — as far as conditions will permit — its probable effect upon efficiency of production and the general welfare of society.

Of recent examples of integration in this country, far the most important and striking is that which has just taken place in the iron and steel industry through the creation of the United States Steel Corporation. In no other case can we find such a perfect working of the forces of integration. In other cases, integration has taken place almost unconsciously, and as the result rather than the object of the steps taken. Here we have an instance where the benefits of integration

were clearly seen in advance, and an enormous combination brought about for their realization.

No greater mistake could be committed than that made by most writers on this corporation, who have seen in it but a combination on a larger scale similar to those of its constituent companies. The latter, with the exception of the Carnegie Company, were pure types of the concentration of industry. The former is a pure type of integration of industry.

As the creation of this corporation represents in such a complete way this whole movement of integration, the motives or causes responsible for it, the conditions making it possible, and the probable results of its action, it is worth our while to describe its rise with some degree of particularity.

Until 1895 or 1896 the development of the iron and steel industry in the United States may be said to have followed the normal course of most expanding trades. It was marked by the gradual concentration of work in fewer and larger establishments and a parallel geographical centralization in the more favored localities. While it was evident that a dominant position was being attained by certain establishments, this dominance was due almost entirely to the natural advantages that they enjoyed and the skill with which they were managed. Their growth, in a word, was one of natural expansion through the addition of new mills and the development of established lines of work. Only to a limited extent was increase in size obtained by the absorption of hitherto independent plants. There was little or no idea of one or a few establishments reaching such a strength as to be able to exercise monopolistic powers and fix prices without regard to active competition.

This was the condition of affairs up to the closing years of the last century. Suddenly a new means of building up huge concerns was adopted. The possible economies resulting from centralization of work in large plants and production upon a large scale had nearly been reached as regards the actual operations of manufacture. It was now seen that there lay a great field for economies outside the work of production proper, through a better control and organization of the factors of distribution. If a union of the forces of all or a con-

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siderable number of manufacturers of the same product could be secured, it would be possible to obtain raw materials at a more advantageous rate or with greater certainty, production could be made to correspond more nearly to demand, markets could be reached more directly, and new ones opened up where existing outlets were insufficient, transportation charges could be reduced, and, finally, if a sufficient control of output could be secured, a more positive influence could be exerted upon the fixing of the prices at which the commodities manufactured would be marketed.

It was the effort to realize these considerations that led to the second phase in the history of the organization of the iron and steel industry in this country. This phase is the one marked by the formation of the great national companies, or so-called iron and steel trusts, through the merging of hitherto independent concerns. In rapid succession there were organized the Federal Steel Company, the National Tube Company, the American Steel and Wire Company, the American Tin Plate Company, the American Steel Hoop Company, and the American Sheet Steel Company, to mention only those which afterwards went into the United States Steel Corporation, each with its forty, fifty, or hundred millions of capital.

Now the characteristic of this period of transformation was that, in the formation of these huge concerns, the motive was the union of likes; that is, the bringing together under the same management of plants manufacturing the same products. It was as if a vessel of several classes of dissimilar particles had been suddenly agitated, and the members of each class had, on the instant, rushed together to form single independent homogeneous aggregations. There was thus constituted a great company for the manufacture of tin plate, another for the making of steel hoops and related articles, another for sheet steel, etc.

For a time it seemed, to the outside public at least, that this was the final step in the evolution through which the industry was passing, and that the immediate future would be devoted to the strengthening of the position obtained by each of the companies. But no sooner was this movement accomplished than new forces were seen to be at work. As field

after field came under the central or unified form of organization, the companies in which this organization was vested came more and more into direct contact with, and dependence upon, each other. (The finished product of the one was the raw material of the other.) One company was the chief purchaser of the products of another, taking in cases a quarter, a half, or even a greater proportion of the entire output of the latter. One company was thus in a position powerfully to control the operations of the others. In numberless ways this dependence of one field upon another led to friction and difficulties whose seriousness was proportionate to the size of the companies concerned.

This condition of affairs could not last long, and signs soon began to be manifest that great plans were on foot for its correction. To do this, there were but two lines of action open. One was that each of the companies should seek to gain its independence of the others by the enlargement of the scope of its operations, so that it would itself mine or manufacture the materials used in its operations. The other was that the different companies could make some arrangement among themselves by which their interests would be harmonized.

Efforts were at first directed towards the first-named method. One after another the different companies began to formulate plans for the erection of mills to manufacture products embraced within the field of operations of the other companies. It needs but a casual study of the situation of affairs to see where this policy, if adhered to, would have led. It meant a gigantic struggle between the companies. The company manufacturing sheet steel, for example, could not see with indifference the companies which took almost its entire product reach a position where they were no longer its customers. If they succeeded in doing this, the former company had but one alternative, if it was to remain in the business,—that of itself building mills for the conversion of its products into articles ready for final consumption. The announcement by one company that it intended building mills for the production of articles which it had formerly purchased from a second company was consequently immediately followed by announcements of the second company that it would retaliate by enter-

ing the field of the first, and erect mills for the conversion of its products for which it could no longer secure purchasers on an adequate scale. These were no idle threats. It is well known that definite plans for such action were, in many cases, formulated, and the preliminary operations for their execution begun. The tremendous danger to all parties, if this movement had been allowed to continue, was quickly seen. Efforts were, therefore, turned to the second method of bringing about harmony,—that of uniting the interests of the companies in some way. The powerful firm of J. P. Morgan & Co. was appealed to. The result was the formation of the United States Steel Corporation, with its billion, one hundred million, dollar capitalization.

With the formation of this corporation the evolution in the organization of the iron and steel industry entered upon its third and, as yet final, phase. It constitutes, if the expression may be permitted, combination carried to its second power, being, as it were, a combination of combinations. That in character it is essentially different from previous combinations, which had in view merely the concentration of industries for the purpose of controlling production and prices, is manifest in the view of the conditions leading to its foundation. The motives that were at work were purely those for bringing about an integration of related interests. It must be remembered that the companies which were united were not essentially competing concerns, as regards the disposition of their products. Had the motive been primarily one to lessen competition, the union would have taken place along different lines. The insistence that Mr. Schwab lays upon this point, in his testimony before the Industrial Commission, must be taken as a sincere expression of opinion, and not one dictated by business policy.

Mr. Schwab, moreover, brings out this point with great clearness in his article contributed to the *North American Review* for May, 1901. "The iron industry," he says, "was kept back in this country for many years, because there was no connection between the various industries on which it depended. The ore deposits were owned by one set of men. The coal deposits were owned by another set. The coke was

made in a hundred different places, scattered throughout several States, under different management. The mills and furnaces, in turn, were owned separately; and, when these mills and furnaces, having bought their iron here and their coke there and their other products elsewhere, finally produced their iron and steel, there were still other processes that the product had to go through before it could be finally landed in the market. Everything was disconnected and disjointed. It was not until the whole process was welded into a continuous chain under one management that the American iron industry began to make its giant strides which have now carried it into a position where it dominates the whole world."

If there was any doubt in this matter, one has but to follow the subsequent policy of this corporation to have a verification of the position that has been taken. The new corporation has spared no expense or effort to acquire certain properties, such, for example, as ore deposits and facilities for lake transportation, which were essential for the complete rounding out of the scheme of controlling all of the factors entering into the production of finished articles from the raw materials. It is strictly in line with the same policy that the American Bridge Company and the Shelby Tube Works were acquired, as through them the products of its other departments can be directly marketed as finished products.

On the other hand, the corporation has looked with perfect equanimity upon the building up of other strong properties in fields in which it already had a sufficient number of mills, such as is seen in the combination of steel properties under the control of the Pennsylvania Railroad, the Colorado Iron and Fuel Company, the Republic Iron and Steel Company, and scores of others that might be mentioned. Were the crushing out of competition in view, these would be the properties that would have been sought.

In our account of the formation of this corporation we have spoken as if it were a union of concerns, each having its special field of operations. To this, however, there was one important exception. The Carnegie Company occupied a unique position in the iron and steel trade in the United States. It was, in the first place, much the most important

concern in the trade. Roughly speaking, it made from 25 to 30 per cent. of the finished iron and steel product in the country. It mined all the ore that it used, or over four million tons annually, and owned a large percentage of what is known as the old range ores. It did not sell any ore to outside parties, believing it to be the better policy to preserve it for its own use. It transported a large percentage of it in its own boats over the lakes, and carried a large percentage of it on its own railroad to its Pittsburg works, where it manufactured a greater variety of steel articles than almost any other manufacturing concern. It made almost everything pertaining to the iron and steel trade. In structural materials of all descriptions it made 50 per cent., in rails, 30 per cent., and in armor 50 per cent. of the production of the country.*

It was in the theory or principle of its organization, however, that the Carnegie Company was unique. With an insight into the requirements of a scientific organization of the iron and steel industry that amounted to genius, Mr. Carnegie had twenty-five years before his competitors begun the organization of his undertaking upon the principle of the accurate integration of all the branches of the industry under a unified control. He was thus working out in theory and practice a plan of organization which the great Steel Corporation was to adopt *in toto*. Mr. Schwab, the president of the company, has given us an exceedingly interesting account, in his testimony before the Industrial Commission, of the development of the Carnegie Company and its policy. He said in part:—

The original Carnegie Steel Company was a partnership. When it went into the mining of ores, it formed a separate organization for that purpose, and so with almost every other branch of its business. Its shipping industry on the lakes (the Bessemer Steamship Company) was a separate organization; the railroad (the Bessemer & Lake Erie Railroad, running from Conneaut Harbor to the works in Pittsburg, about one hundred and fifty-six miles) was a separate organization; its coke interest, limestone interest, all those various companies numbering some twenty-six or twenty-seven, were all separate organizations. But the controlling interest of each was held by the Carnegie people. In fact, Mr. Carnegie himself retained a controlling interest in all, owning something over 50 per cent. in each of the companies.

It was then found that this partnership had grown so large and the

* Testimony of J. C. Schwab before the Industrial Commission.

business was of such a varied character, there were so many companies to control and so many partnerships holding varied interests, that for the sake of harmony among our partners it was decided to put all in the control of one corporation, to be known as the Carnegie Company. One of the chief reasons for that was Mr. Carnegie's idea that a partner in the coke interest, for example, should not have a greater interest in coke than he had in steel, as it might affect the contracts between the two companies; or that a partner should not have a greater interest in shipping than in the steel company. So he put these interests all into one company, so that each partner's interest was as a whole.

Something of a diversion has been made in order to give this account of the Carnegie Company, because it constitutes such an important step in the evolution of the iron and steel industry in this country, because it affords an unusually definite presentation of the reasons dictating the consolidation of allied interests into a single corporation, and because it undoubtedly pointed the way and furnished the model for its great successor, the United States Steel Corporation.

Returning now to a consideration of this latter combination, it is, of course, too early to attempt a forecast of what its ultimate influence will be upon the industry and upon the public welfare. If our position in the matter, however, is correct, there seems to be no reason to apprehend anything like an effective monopoly of the trade being organized by the corporation. Practically, all of the testimony before the Industrial Commission, including that given by independent operators, was against any such idea. There are now, as we have seen, a large number of plants outside of the corporation; and the building of new mills seems, if anything, to have been stimulated by the events of the past year.

The policy of the company, moreover, would seem to be, not in attempting to lessen outside competition, but in seeking to bring about a more perfect organization and integration of its own properties. Its work, in the immediate future at least, lies in strengthening its weak departments, in securing an adequate supply of ore, coal, lime, and other necessary material, in seeing that its coke ovens are sufficient for the needs of its manufacturing plants proper, that it has certain and adequate facilities for transportation, that the production of the mills in one department correspond with the needs of the

other, etc. The strength of the corporation in competition with other plants will thus be its perfect control over all the factors of production, transportation, and distribution, its ability to make its operation correspond accurately to the needs of the market, and its power, through the large scale upon which its operations are carried on, to engage in foreign trade, and thus emancipate itself from the limitations and fluctuations of a purely domestic demand. It is, of course, quite possible, if other iron and steel companies pursue the same policy of building up self-contained organizations, as indeed a number of them are already doing, that the time will come when the competition between them and the Steel Corporation will be a serious matter. When that time arrives, the old tendency of combination to restrict competition will again become dominant.

The formation of the United States Steel Corporation is by no means an isolated example of integration on an extensive scale in this country. In this same industry we have the important example of the Pennsylvania Railroad interests acquiring the control of a number of great steel works and of the projected combination of armor plate mills, gun factories, and shipyards, so that all the operations of ship-building, and especially the complete construction and equipment of war vessels, may be carried on by the same concern. In the former case it is of interest to note that the motive of the railway company in acquiring steel works was not only that it might be independent of outside mills for its rails and other steel material, but that through them it could control the transportation of the large quantities of freight that their operation necessitates. This is the same motive which in the past had led to the close union of interests of the coal mining industry and of the roads by which the coal must be conveyed to its markets. It is solely through the integration of these two industries that a unified control was secured of the anthracite coal trade.

In the transportation industry can be found evidences of the working of the force of integration in a great variety of ways. Several of them have been mentioned in the preceding paragraph. Of others, the most important is that whereby a close community of interests is being established between railroad

and ocean transportation. The purchase of the Leyland Line by J. P. Morgan & Co. was for the purpose of permitting a closer relationship between the business of the railways bringing freight to the seaboard and its subsequent carriage to foreign parts. It is indeed rumored that this purchase is but a part of a far greater scheme for the close alliance of related interests. The comments of Bradstreet's on this purchase are exceedingly pertinent to the subject we are studying, and will bear reproduction, even though they are at some length. In its issue of June 1 of the present year it says:—

One of the most troublesome elements in the railroad rate situation has long been the tariffs on export business, in making which both railroad and steamship rates have to be considered. With an abundance of ocean tonnage under the control of the trunk line railroads or in the hands of a management in alliance with them, the problems arising in connection with export rates and their relation to domestic transportation could manifestly more easily be solved than in the past, when the great majority of ships which transported the export freight brought to the seaboard by the railroads were in the hands of independent and foreign owners.

At the same time it is evident that plans for the development of export business on the part of the United States Steel Corporation or the bituminous coal roads required the absolute command of ocean transportation on a large scale, and would furnish further reasons for the Leyland deal, as well as for others of the same character which are supposed to be under investigation. . . . Increased attention is being drawn to alliances between railroad and steamship interests generally. Such arrangements are by no means a new thing. Various American roads already have close relations to or an ownership in various steamship lines, an instance of which is furnished by the C. & O. fleet, which transports grain from its Newport News terminus to Europe. The close connection which exists between the Pennsylvania Railroad and the American Line and Red Star Line steamers is another instance, while the Canadian transpacific service is another notable example. The Great Northern, it will be recalled, is now building a fleet of twenty thousand ton vessels for the Pacific service to be operated at the East and the Puget Sound terminus, while the Union Pacific, being now in practical control of the Pacific Mail Steamship Company, already possesses facilities of that character. . . . Indications, in fact, are that on both the Atlantic and Pacific a large proportion of the ocean tonnage will be before long in the hands of or under the control of the large American railroad systems, and will be worked in direct harmony with them.

Another example in which this purpose of bringing together related interests rather than concentration in a distinct field is peculiarly manifested may be found in the control recently

obtained by the Standard Oil Company of the American Linseed Oil Company. The Standard was already in control, through its directors, of the National Lead Company. There were thus brought under the same general management, or at least under sufficient control to insure that they would work in harmony with each other, the concern having the larger proportion of the output of linseed oil in the United States, and the company controlling the greater part of the production of white lead, or the product in which linseed oil finds its chief employment. There are also strong indications that the Union Lead and Oil Company and other concerns will also be taken in, and all run in relation to each other.

Still another example of the bringing together under one management of all the different branches of a trade, which has taken place during the past year, is the merging of the American Tobacco Company, which had the largest production of cigarettes in the country, the Continental Tobacco Company, the leading manufacturers of chewing and smoking tobacco, the American Snuff Company, the most important of the snuff concerns, the American Cigar Company, the International Cigar Machine Company, and the Havana American Company in a single corporation, the Consolidated Tobacco Company. The magnitude of this combination may be seen from the fact that the capitalization of the companies taken was over two hundred million dollars.

It will scarcely be necessary to multiply examples further. If a careful analysis of all the recent important considerations be made, it will be seen that in almost all cases the essential purpose in view has been the merging of related interests rather than the taking over of distinctly competitive concerns.

Of integration in the distributive branch of industry, the chief example is, of course, that of the familiar department store. Here, however, the real forces of integration are not present to the same extent that they are in the other examples that we have mentioned. The gathering together in the same establishment of the numerous branches representing as many branches of trade is not the result of any integral relation of independence between the different departments. Their union

is rather to obtain the advantages resulting from centralization of management, and of ministering to the convenience of customers by making it possible for them to find many of the articles they desire under one roof. The scale on which these stores are conducted, however, make it possible for them to establish closer and more immediate relations with producers, and thus bring about a real integration. Many of the stores maintain not only extensive repair and custom-making departments, but to a considerable extent engage in the direct manufacture of articles handled by them. Where this is not done, the stores often enter into such close relations with manufacturers that the arrangement is almost one of partnership. The jobber and other middlemen are eliminated to a considerable extent.

Another example of the integration of industry, though it has not yet reached a position of great importance, is that of the union of the work of production and distribution in the same hands, as is seen in the practice, now quite common, of manufacturers of shoes, such as the Douglas, the Regal, the Crawford, and other companies to open retail stores of their own in the chief cities of the country for the disposal of their products. In Great Britain the Mansfield Shoe Company has carried this system to a high development. Not only has the company one or more stores in each of the chief cities of Great Britain, but its stores are found in many of the cities of the Continent.

This tendency which we are considering can also be seen in fields in which its occurrence would not at first be anticipated. The rise within recent years of the great trust and security companies is an example of pure integration. Here we have one big corporation performing a great variety of functions, which were formerly distributed among as many institutions. It is not unusual for the same company thus to act as a bank, as the administrator of estates, as real estate agent, as guardian of valuables, as bonding agency, as conveyancer of properties. Either itself, or through companies acting in close relations with it, it also examines titles, places insurance, and performs other duties of fiduciary or legal character.

The present article is intended primarily to cover the move-

ment towards integration in this country. It is a matter of interest, however, to note that this tendency is also strongly seen in industrial combinations taking place in England. Thus a recent writer in the *Contemporary Review* says: *—

There is a very distinct trend in the direction of the formation of large companies organising for themselves departments of industry in which all operations from the supply of the raw material to the turning out of the finished article remain in the same hands. The process is not complete in all cases, but we can point to a number of cases showing various aspects of the movement. Since the union of the Whitworth and Armstrong Companies, the joint concern has acquired a large interest in the engineering and ship-building company of Robert Stephenson & Co., in order to have a graving dock at its disposal. Vickers, Son & Maxim, Ltd., beginning as armor plate manufacturers, absorbed the Naval Construction and Armament Company, and can now boast that they can turn out a battleship completely equipped in every respect. The purchase of the Clydebank Engineering and Ship-building Company by the old Sheffield firm of John Brown & Co. affords another case in which everything from the coal and iron ore to the ship ready for launching can be provided by the same company. Guest, Keen & Co.—in which are united the Patent Nut and Bolt Company, the Dowlais Iron Company, and Guest & Co.—belong to the same class; and we may add that their directors are among the latest who have gone to learn in the school of the United States Steel Corporation. James Dunlop & Co., ironmasters and colliery owners, have followed the same path by purchasing the Calderbank Steel Company; and Robert Napier & Co., ship-builders, have similarly united with Broadmore & Co., steel and armor plate makers. A new line has been struck out by the Thomas Iron Works, which, after widening their scope by the absorption of the engineering works of John Penn & Sons, have lately formed a combination with Messrs. Siemens, Messrs. Mather and Platt, and the Brush Electrical Engineering Company for the purpose of undertaking electrical equipment on equal terms with the great German and American combinations.

Great Britain offers still another example of the integration of industry that is in every way remarkable, that of the great system of co-operative consumption based on the Rochdale principle of division of profits. This system merits careful study, as it constitutes probably the most interesting example of the results accomplished by the steady working of the

* "The Billion Dollar Trust," by Henry W. Macrosty and S. G. Hobson, *Contemporary Review*, September, 1901. Strangely enough, these writers do not see that the steel trust which they are describing is an example *par excellence* of the tendency towards integration. They speak of combinations described in the paragraph quoted as peculiarly a product of British soil, and add "of amalgamations on the model of the American Trust there are but few."

force of integration that can be found in any country, and because it is one the significance of which in this connection has never been pointed out.

In 1884 a small group of twenty-eight men met at a house in Toad Street in the town of Rochdale, and organized a co-operative store on a principle entirely different from that which had ever been applied in previous co-operative undertakings. This was the principle that the store should be run by the customers as co-operators, and that all profits realized should be distributed among them in proportion to the value of their purchases. This simple and equitable basis for co-operation meeting with success, the undertaking was taken up elsewhere, and soon throughout the kingdom there appeared societies or co-operative stores organized on the same model. By 1864 there were in existence not less than 500 such societies with over 125,000 members, and total sales exceeding \$14,000,000 a year.

The time was now ripe for the next step in this wonderful development of an industrial system. These societies were evidently compelled to enter the market as purchasers of goods to the extent of their sales to their members. To a very large extent the stores, appealing as they did to the same classes of the population, handled the same goods. The idea of establishing some form of co-operation among the societies by which their purchases might be made in common naturally suggested itself. The result of efforts to put this idea into execution was the founding in 1864 of the British Co-operative Wholesale Society, the function of which should be the acting as purchasing agent for the co-operative stores constituting its membership. In its organization the Rochdale system of division of profits, according to purchases, was rigidly applied, only now the co-operative societies, instead of individuals, were the beneficiaries.

This society proved no less successful than that of the individual stores. Starting with sales of over \$250,000 during thirty weeks in 1864, its volume of business increased by leaps and bounds. In 1873 its net sales passed the five million dollar mark, in 1876 the ten million dollar, in 1882 the twenty million dollar, in 1891 the forty million dollar mark, and in

1899 represented the enormous sum of seventy million dollars. In the mean time, or in 1868, the Scottish Co-operative Society had been formed to serve the same purpose for the Scottish co-operative stores. Its progress, proportionately to the territory that it served, was even more rapid, its net sales in 1899 amounting to twenty-five million dollars. This growth in co-operative wholesale distribution was, of course, the outcome of the continued development of the individual co-operative stores. These had in 1898 reached the total number of 2,857, of whom 2,130 reported in 1898 1,708,098 members, and total sales during the year of \$340,000,000.

Thus was accomplished the first great step in the integration of industrial operations under this system, that of the close union of the wholesale and retail business. There remained yet the fields of production and transportation to be entered. As the wholesale societies became the purchasers of enormous quantities of certain staple products, the question again arose whether these could not be secured directly by their manufacture by the societies instead of by purchase from independent concerns. A beginning was accordingly made in the early seventies by the opening of works for the manufacture of a few articles. The experiment, meeting with success, has been successively extended to other articles, until to-day both the British and the Scottish Wholesale Societies are manufacturing articles on a huge scale. Thus among the manufacturing plants of the British Society may be mentioned the great boot and shoe factories at Leicester, with a weekly output of over 35,000 pairs of shoes; the Dunston flour mills, turning out 8,000 sacks of flour a week; the tobacco works at Manchester, with yearly sales of nearly one and a half million pounds of tobacco, valued at over one million dollars; the Batley Woollen Mills, with a yearly production valued at more than two hundred thousands of dollars. Other articles manufactured by it on a scarcely smaller scale are lard, soap, candles, confectionery, preserves, pickles, cocoa, hosiery, furniture, clothing, corsets, biscuits, crackers, etc. Finally, it has even entered the farming industry, in order to produce its own milk, eggs, cheese, fruits, etc.

In 1876, owing to the rapid growth in its European trade, it

purchased a small vessel for the transportation of its purchases. In 1879 another vessel was built for it. Other vessels have since been added, until the society now owns and operates a fleet of seven vessels, the total cost of which was over \$400,000. Other branches of activity of the society are the maintenance of central banking institutions for the benefit of the societies, and the provision of fire, accident, and life insurance, while the individual societies carry on extensive operations in the way of granting loans to its members for the erection of houses.

Space does not permit us to give a similar account of the entrance of the Scottish Society into the field of production. Suffice it to say that its operations in this direction are relatively no less important. We have entered somewhat into detail in tracing the history of the co-operative movement in Great Britain, as it furnishes a most remarkable illustration of the integration of the different branches of industrial work in one harmonious system. Based on a pure co-operation of consumers, we have here the operation of production, transportation, wholesale and retail distribution, banking and insurance, all carried on in one finely organized system, in which relative rights and interests are perfectly adjusted.

Little would be gained by carrying further this description of the ways in which the tendency towards integration is now working. Attention should rather be given to a closer analysis of the causes of this movement, and what will be some of the more important results. Great movements, such as we are considering, rarely take place in response to a single cause. In the present case, thus, it is possible to distinguish a number of quite distinct motives leading to union of related industries under the same management. First, and primary among these, must be noted that of the desire of manufacturers to render themselves independent as regards the supply of all the raw materials needed by them in their enterprise. With the increasing concentration of industry this consideration has become one of greater and greater importance. When a manufacturer had a choice of a score or hundreds of concerns to which he could turn for the supplies of which he had need, and these concerns were in comparatively active competition with

each other, there was every surety that these supplies could be obtained when needed, and at a reasonable cost. When, however, the manufacturer, on the one hand, now enters the market as a purchaser of materials on an enormous scale, and, on the other, finds but a few firms from which these materials in the quantity required can be obtained, conditions are entirely different. The same is true in regard to the producers of the raw materials. Where they had hundreds of purchasers competing for their products, they have now but a score or less. From the standpoint of both parties, therefore, independence has given way to dependence.

As this condition of affairs became more marked, it became inevitable that the one should seek to secure a definite control over the products of which he had need in his manufacture, and that the other, as markets were closed to him, should seek, by broadening the scope of his operations, himself to convert his materials into finished products ready for consumption. In a way the force leading to integration may be said to be much the same as that which impels each nation to become, as far as possible, self-contained in respect to the supply of articles of which its citizens have need, or are believed to be necessary for its national life and progress.

In the above we have given a description of what is believed to be the prime cause of the movement towards integration. A briefer reference will suffice for some of the secondary motives. Among these will be first noted that of congested capital seeking investment. There is no doubt that some of the earlier combinations have earned for their promoters or members enormous profits. At first these profits could be profitably invested in the industry itself through its further development. In time, however, this, in many cases, became difficult. In seeking for new openings, it is natural that the choice should be made of collateral or related industries, the manufacture of articles hitherto purchased, or the more complete transformation into finished products of articles previously sold to other manufacturers.

Still another motive is that of undertakings which have secured a virtual monopoly of a great product seeking to eliminate the competition exerted by a substitute product. There

are very few articles, as Professor Ely has excellently brought out in his recent work on trusts and monopolies, for which substitutes do not exist, and to which the public will have recourse if the prices demanded for the article of first choice is excessive. This may be said to be the motive dictating the entrance of the Standard Oil Company into the field of the production of other than petroleum oils, though in this case there were other reasons, resting upon technical considerations.

Finally should be mentioned the motive of realizing the economy that may be gained from the elimination of the middleman, or those standing in any way between the production of the raw material and the final distribution of the finished product to the consumers. As the magnitude upon which industrial operations are carried on increases, possibilities of economy in this way become greater. Closely allied to this motive is also that of making a more effective use of by-products. This fact alone is responsible for the same concern, in a number of very interesting cases, operating directly what, at first sight, would seem to be a very large number of dissimilar undertakings.

Turning now to a consideration of what will probably be the effects, good and bad, of this movement, we shall have to limit ourselves to a very general examination. The movement is as yet too young to permit of any accurate forecasting of the ultimate results as regards the details of our industrial system. It is scarcely necessary, however, to comment upon its possible overwhelming significance. There are definite limits, to the progress of concentration, and these seem to have been reached in a number of cases. There are practically none to that of integration. It has already given us a billion dollar corporation, although its influence as a definite force has only recently begun to be distinctly felt.

In the future progress of this movement there is one industry in which it would seem that the conditions are peculiarly favorable for its operation. This is the great industry of railway transportation. The peculiarity of this industry is that it is at once dependent upon all the other industries for its successful exploitation, and all the other industries are in a like manner dependent upon it. We have given above one or

two instances where this interdependence has led to integration. These cases, however, are insignificant in comparison with what might take place. The railroads, to an extent equalled by almost no other undertaking, are enormous purchasers of certain articles, such as rails, cars, structural material, and other supplies. These articles, moreover, are ones for which a steady and certain demand exists year after year. The time may very easily come when the roads will abandon the policy of depending upon outside concerns for the supply of the materials and equipment of which they have need, and undertake, as is now done in isolated cases, their direct manufacture. With their lines reaching all the mines or other sources of supplies of which they have need, and with the possession of certain markets for what is produced in their own needs or the ability effectually to distribute any surplus, the roads are in a peculiarly favorable situation for the manufacture of a large number of products. If their charters will not permit this to be done directly, the same result can be accomplished through closely affiliated companies, as is now done by the Pennsylvania Company through the Conemaugh Steel Company.

The question may legitimately be asked why, in view of these circumstances, if integration is such a strong force, the roads have not already entered these fields; why, as regards their most immediate needs, such as cars, direct manufacture has not been more resorted to. The explanation lies in the fact that the evolution of the railway systems in this country has not yet advanced far enough to make this desirable. During the past as well as at the present time the great problem confronting the railroads is the building up of systems through which effective control can be obtained of particular territories or lines of traffic. So overwhelming in importance is this consideration that all other considerations have for the time to be left in abeyance. In the contest for supremacy the greatest arm is the possession of capital with which other railroad property needed for the rounding out of the systems can be acquired. It is thus the height of folly for any considerable sum of capital to be devoted to other purposes, unless an absolute necessity for such expenditure exists.

The time is now rapidly approaching, however, when these systems will be comparatively perfected, and the greater part of the country be divided up among a few great systems of railroads. When this is accomplished, a radical change may be looked for in the policy governing railroad administration. Energies will then be turned exclusively to the efficient equipment and operation of the properties. The different lines of the systems must be reconstructed, so that they may be welded into one harmonious whole. The matter of securing supplies and equipments at the best possible rate will receive the most careful attention, and the time will then have been reached when the desirability of the roads themselves manufacturing the articles of which they have need will be considered purely as a problem in the cost of production and control over a necessary element in the operation of their properties.

To what extent the railroads will ever become manufacturers on a large scale it is now impossible to predict. That they will do much more than they are now doing would, however, seem extremely probable. Should, moreover, the time ever come when there will be an integration of industries, as well as an integration of related branches of an industry, the railroads of the country would furnish the connecting links binding the different departments together.

It would be a hardy prophet who would seek to follow out all the consequences of the continued operation of this tendency. Especially would it be futile to attempt to weigh the social effects that would result from the concentration of such enormous power in the hands of a few individuals. Of one result, however, we may speak with comparative certainty. Each step in the direction of integration implies a lessening of possible friction and a substitution of a direct for a more indirect method, and both of these mean greater economy and increased efficiency of production. With this will also come an enormous strengthening of control over the factors of industrial operations. Just as it was the writer's opinion, as expressed in his former communication that has been referred to, that the greater control resulting from the concentration of industry would have as one of its most important consequences the steadying of production and the resulting less-

ening of industrial depressions, so it is believed that the far greater control that will follow from integration cannot but work in the same direction. Here, however, we are treading upon more uncertain ground. The causes of industrial depressions are too complicated and too little understood to permit of confident statement.

In conclusion, it is of not a little interest to note how perfectly this tendency towards integration fits in with the theory of evolution as applied to industrial progress. Evolution as a method of progress, stated in the simplest terms, may be said to be the differentiation of functions and the concomitant integration of parts. With the rise of the modern industrial system began that differentiation of function which is known as division of labor. Particular duties or operations were assigned to particular units. In the beginning this was the most important feature of the changes that were taking place. With this diffusion of duties largely accomplished, there now rises, as the factor of prime importance, the second element of evolution, that of integration, by which the various interdependent parts are being knitted together into a more harmonious whole.

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NOTES AND MEMORANDA.

RECENT CHANGES IN THE TAXING LAWS OF MICHIGAN.

THE motive for the recent change in the system of taxation in Michigan is found in the desire to realize equality of taxation under the form of a general property tax. From the organization of the State to the present time, two distinct schemes of taxation have been kept in active administration: the one known as the "general tax," which was applied to all property not expressly exempted, the other known as the "specific tax," which provided for the taxation of railroad companies, river improvement companies, insurance companies, plank-road companies, and a few others expressly stated by law, in some manner arbitrarily determined by the legislature. This distinction is found in the Constitution itself, which imposes upon the legislature the duty of providing a uniform rate of taxation, except upon such properties as pay specific taxes. By a law passed by the last legislature, this dual system of taxation contemplated by the framers of the Constitution, and followed by all legislatures up to the present time, has been swept away. All property in Michigan is now to be taxed on the ad valorem basis.

Michigan has experimented with two methods in the administration of specific taxes. Prior to 1871 the railroads of Michigan, as also other important corporations, paid a specific tax on the basis of capital stock paid in. In 1871 gross earnings were substituted for the amount of stock paid in as the basis of taxation, and this continued to be the basis of payment up to the present time. Confining the statement to railroads, the rate of payment was not the same for all companies, but varied according to the gross earnings per mile of line. At the time the law was repealed by including railway property in the ad valorem system of taxation, the rates were as follows:—

	Per cent.
Upon gross earnings not exceeding \$2,000 per mile	2½
Upon excess of \$2,000 not exceeding \$4,000 "	3½
Upon excess of \$4,000 not exceeding \$6,000 "	4
Upon excess of \$6,000 not exceeding \$8,000 "	4½
Upon excess of \$8,000 per mile	5

In 1899 the railroads of Michigan paid to the State, under the operation of this law, \$1,091,556.39. The amount which they will contribute on the basis of valuation is not yet known.

The method of taxing corporations on the basis of gross earnings has been criticised from two points of view. In the first place, the fact that the proceeds of this tax go directly to the State treasury has given rise to a feeling on the part of the minor civil divisions that they are deprived of a considerable portion of the property which by right ought to be included in local assessments. This criticism, however, has never been strong in the State. Indeed, the amount contributed under the new law, by such corporations as paid specific taxes in 1900, goes to the State, and not to the localities; and the fact that most of the money thus collected is handed over to the localities for the support of the common schools must necessarily break the force of this criticism. The second criticism upon specific taxation of corporations is that corporations did not, under this plan, pay a rate upon the value of their property equal to the rate paid by other properties. It was conceded by all parties to its controversy that equity in taxation means equality of rate. This criticism it was which caused the abandonment of the tax.

The significant steps in the abandonment of the system of specific taxation are as follows: In 1899 the so-called Atkinson law was passed, which created a State Board of Assessors whose duty it was to assess the property of all railroads, express, telegraph, and telephone companies in the State, to determine the average rate of county and municipal taxes throughout the State, and to tax the property of the several companies as assessed at the average rate of taxation paid by other properties. It was especially provided that the franchises of corporations should be included in their assessed value. This law was never passed upon by the courts; but a test case upon the telephone tax law, which was similar to

the Atkinson law, showed this law to be unconstitutional "on the ground that, being a tax on property, based on assessment, it was not a specific tax, but an ad valorem or property tax, and was not within the uniform rule of taxation prescribed by the constitution of the State, for the reason that it was based upon the average rate of taxation throughout the State, and not the local rate applicable to other assessed property." This decision necessitated a change in the Constitution if the property of corporations was to be taxed on the basis of valuation at a uniform rate throughout the State. An amendment to the Constitution was accordingly prepared and submitted to the people at the general election November 6, 1900, with the result that the amendment received the approval of the people by a majority of 383,672 votes. This was the third time that the people expressed themselves in favor of a revision of the laws taxing corporations; and in the spring of 1901 a new law was passed, similar in its aims and provisions to the Atkinson bill. It is one of the anomalies of public life that Governor Pingree, to whom belongs the credit (if credit it be) of taxing railway properties on the basis of valuation, should not have been permitted to sign this bill, but that it should have been signed by his successor, Governor Bliss, who, to say the least, seemed indifferent to the success of the measure.

If corporations conducting an interstate business are to be taxed on the basis of the value of their property within the State, a great deal depends upon the method followed in ascertaining this valuation; and it may be worth while to say a word respecting the rule of valuation adopted in Michigan. The legislature of 1899 passed a law creating a Board of State Tax Commissioners for the better administration of the taxing laws of the State. Among the duties imposed upon this board was that of ascertaining the true value of properties paying specific taxes. The ostensible purpose of this valuation was to determine whether the properties imposed with specific taxes pay upon their true value a rate equal to the value of the property taxed under the general tax law; but the framers of this law well understood that the value thus ascertained would ultimately be used as the basis of taxation. The statement which

follows confines itself to railway properties. The first point decided by the commission was that the value of railway properties is both tangible and intangible, that is to say, the process of valuation necessitates the separate appraisal of the physical and of the non-physical elements. The theory adopted for the appraisal of the physical elements was the theory of reproduction and deterioration, thus reducing the problem, so far as physical valuation is concerned, to an engineering problem. Some of the best engineers of the State were employed by the board, and every property in the State was subjected to personal examination. The report of this body of engineers was not presented in the form of a lump sum for each road, but the value of each road was classified according to the official Classification of Construction Accounts prescribed by the Interstate Commerce Commission. In the final report one column of figures gives, item by item, the cost of constructing a new property. This is followed by a second column of figures which shows the present value of the property as it now stands, allowance being made for deterioration through use. This assessment of the physical valuation of the railways cost the State something in excess of \$40,000, but it is worth all that it cost; for the thoroughness with which the work was done, as also the high standing of the experts by whom the appraisal was made, has given to the State an assessment which commands universal confidence.

The value of the intangible elements of railways was arrived at from an investigation of their income account. The rule adopted, stated concisely, was as follows: To the gross earnings of a railroad was added the income derived by the corporation from corporate investments or from any sources other than operation. From this sum was deducted; first, operating expenses; and, second, 5 per cent. of the physical value of the railroad in question, as reported by the engineers, together with a few incidental payments that need not here be mentioned. In case gross earnings showed an excess over operating expenses and a 5 per cent. annuity on valuation, the remainder was capitalized at 7 per cent., which capitalization was regarded as the intangible value of the property. This valuation, added to the present value reported by the engineers, gave the true value of the property.

Any discussion of this rule would be out of place, but two remarks are necessary for its understanding. In the first place, it should be noted that the income account made the basis of this computation is the average income account for a series of years, and not the account of any particular year. This seemed necessary in order to avoid extreme fluctuations in value from year to year. It should be noted in the second place that in the 5 per cent. allowed on the physical valuation of the properties, and in the 7 per cent. used as the basis of capitalizing the final surplus, is included a 1 per cent. tax upon the valuation ascertained. In this manner, allowance was made for the effect of the tax encumbrance upon the valuation of the property; and the valuation arrived at could be placed immediately in comparison with the valuation of property paying the general property tax.

It may be of interest to state that the physical value of Michigan railways appraised in the manner described was found to be \$166,398,156; and the non-physical value of Michigan railways was found to be \$35,814,043, making an aggregate value of railways within the State of \$202,212,199. If this valuation be accepted as the basis of payment under the new law, it will result in a contribution from the railways two or three times greater than the amount which they contributed in 1899 in the form of a specific tax on their gross earnings. No definite statement can be made upon this point, however, at the present time; for the Board of Tax Commissioners has not yet declared what the "average rate" of taxation is at which railroad property is to be taxed.

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THE WORK OF TRAINED ECONOMISTS IN THE INDUSTRIAL COMMISSION.

Whatever the excellencies or defects of the United States Industrial Commission reports, as compared with other publications of the government, they will have a peculiar interest for economic students throughout the country entirely apart from the subject-matter of the reports in themselves. For to a larger degree than in the work of any other branch of governmental service prior to this time, they represent the output of professional economists trained in our American universities. The overwhelming majority of experts and specialists in the employ of the Commission has had a distinctively collegiate preparation for work along lines of economic investigation.

In order to illustrate the degree of this preponderance, a few details may not be without interest. Professor Durand, the secretary of the Commission, has, in addition to his administrative work, prepared three separate special reports, upon Immigration Statistics, upon Mine Labor, and, in conjunction with Mr. C. E. Edgerton, upon Labor Disputes and Arbitration. The expert agents of the Commission upon Trusts, Immigration and Allied Problems, and Transportation, Messrs. Jenks, Commons, and Ripley, as well as Dr. E. R. Johnson, now a member of the Isthmian Canal Commission, are all college professors. Four reports—namely, upon Trust and Corporation Legislation, Industrial Combinations in Europe, the Effect of Combinations upon Prices, and Prices of Trust Securities—are the work of Professor Jenks. A special report upon The Economic Effect of Immigration, embracing an elaborate study of the “sweating system,” has been prepared by Professor Commons; and a report upon the Present Status of American Railroads and the Effects of Legislation has been prepared by Dr. Ripley. Besides the work of these regular employees of the Commission, who have at the same time contributed to its work in other ways, as in the examina-

tion of witnesses, etc., a number of other special reports have been prepared by economists temporarily associated in its work. Among these may be mentioned Professor Lindsay's report upon Railway Labor; Dr. McCrea's Taxation of Transportation Corporations; Professor Crowell's Distribution of Farm Products; and Professor B. H. Meyer's Railway Regulation under Domestic and Foreign Laws. The difficult work of digesting, indexing, and editing the enormous mass of testimony has been chiefly in charge of Drs. West and Whitten, Mr. Edgerton and Miss Laughlin, all under the direct inspiration of Professor Durand. Two women, both university graduates, trained in economics, Miss Laughlin and Dr. Claghorn, have prepared reports upon Domestic Service, the Foreign Immigrant in New York City, and the Agricultural Distribution of Immigrants, respectively. As compared with this expert work, the small proportion due to others than university-trained economists is significant. Mr. F. J. Stimson's two reports upon Labor Legislation, Domestic and Foreign, are the work of a lawyer of established reputation. The only other special reports are those of Messrs. Clapperton upon Taxation, Turner upon Chinese Immigration, Dodge upon Farm Labor, Christy upon Warehouse and Elevator Laws, Stewart and Olmsted on Convict Labor, and Miss Helen M. Marot upon the Clothing Trade in Philadelphia.

This experiment of almost exclusively employing university trained economists is in part due to the peculiarly temporary character of the work, which, being under the control of Congress, is not subject to civil service rules. The results should be of great interest to the colleges of the country as a whole. If the work of the Commission bear the stamp of genuine research, it cannot fail to stimulate the development of economics in our graduate schools. It may also, perhaps, if the character of the work prove commendable, pave the way to a modification of some of the civil service rules, which to-day render the temporary employment of experts in government bureaus a matter of difficulty.

WILLIAM Z. RIPLEY.

FRAGMENT OF AN UNPUBLISHED MANUSCRIPT
BY JOHN RAE (1796-1872).

INTRODUCTORY NOTE.

During the last twenty years of his life Rae lived in the Hawaiian Islands. A student always, in these years he became especially interested in a philological-sociological study of the people of the Islands. Some of the results of his investigations were published in one of the Hawaiian newspapers, and excerpts from these articles were sent by a prominent English resident to John Stuart Mill. This drew a letter from Mill (who was much interested) to the sender, a copy of which was forwarded to Rae. The date of Mill's letter was February 3, 1863.

Also at about this time, apparently, Rae was informed by a friend in England that Mill had written him directly. This letter, however, Rae never received. Moreover, he heard in some way that Mill had adopted in his *Principles of Political Economy* the whole (as he was given to understand) of his own theory of capital, and that he had also taken him to task for the severity of his criticism of Adam Smith.

Accordingly, Rae wrote Mill at length in regard to his present undertaking; and, his old interest in political economy being aroused, he touched upon that subject also. That is, the manuscript (undated), here made use of, is in the form of a letter addressed to Mill. Whether a copy was ever sent to Mill is not known. This draft of a letter exists in several versions, and comprises all that has been found among Rae's effects on economics. The only subject worked out at any length is the Malthusian Doctrine of Population, which will appear in the forthcoming number of the *Economic Journal*. Besides this there is material for a sketch of Rae's life, which is to be utilized in an introduction to a reprint of his *Principles*, which the present writer hopes to bring out within a year.

C. W. MIXTER.

You have done me the honor of adopting my views with regard to the laws regulating capital. Would you have the kindness to inform me how your exposition was received, and what is the condition of political economy in England just now, with regard especially to that part of the subject? Also in France and the Continent in general. Have the Germans entered on the theme? In my opinion they have more real mind than either France or England; and I am curious to know how they handle this matter, if they have at all entered on it.

Were I visiting in England, what chance would there be of my making an impression by publishing there a new edition of my *Principles*, or by breaking the book up, and giving it a more practical form? Suppose I were to put forth my views on capital, on money, currency and banking, on rent, on the wages of labor, and, perhaps, on population, each in short works,—stating only obvious facts, and venturing on no excursive reasoning,—what chance of success do you think I would have?

I do not know that I differ very much from Malthus on the population question; and it is a very delicate one to handle, in so much so that, were everything else favorable, I might give it the go-by. Still, I think he scarcely states it fairly. . . . I do not think that Ricardo's theory of rent is sound. Things that measure each other do not, therefore, necessarily stand with relation of cause and effect: else in Kepler's theorem the equal times would be the cause of the equal spaces or conversely, whereas they are both concomitant results of gravity and motion. In the same way, increased rent and the cultivation of inferior land are both concomitant results of certain causes. I also think that the question of the wages of labor has been dogmatized and placed on wrong grounds by a sort of jargon derived from superficial views on the nature of capital.

I was careful to say nothing on these heads in my book, because I did not wish needlessly to blazon the full extent of my heterodoxy; but I believe it was a sense of the real social wrongs and, consequently, evils that have arisen from a contracted view of this question that gave me that animus against Adam Smith which you, perhaps justly, condemn me for showing in my speculations. But in reality he is a sophist. Perhaps the greatest of them, I trust the last of them. The art with which he covers this makes his greatness. He is a sophist in the same way in his *Moral Sentiments*, which, followed out, sap the foundations of morality. And read his principles of philosophy in his minor works. They are the very opposite of the inductive philosophy of Bacon. I forget whether I brought this forward in my book. I have not looked at it for many years, and have no copy of it. How-

ever, I despair of getting the world to go with me in any such view. The British mind has, in my opinion, been contracting and narrowing itself for years, so that it cannot grasp great questions.

I ought to state that I have read very little on the subject of Political Economy since writing my book, and that little chiefly on monetary questions. I think that the whole subject of banking is capable of being treated in so demonstrative and accurate a manner that there would subsequently be no room for hasty and unsound generalizations and random schemes. I have taken measures to procure a copy of your book, which will probably reach me within the year, and give me a correct idea of the present state of the science.

RECENT PUBLICATIONS UPON ECONOMICS.

Chiefly published or announced since August, 1901.

An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number.

I. GENERAL WORKS, THEORY AND ITS HISTORY.

- ALENGRY (F.).** Essai historique et critique sur la sociologie chez Auguste Comte. Paris: Alcan. 1901. 8vo. pp. 513. 8 fr.
- BOIES (H. M.).** The Science of Penology: The Defence of Society against Crime. New York: Putnam's. 8vo. pp. 459. \$3.50.
[Shows wide experience and reading. Treats comprehensively a number of topics relating to the criminal classes, criminal codes, the cause and prevention of crime, and the reformation of criminals.]
- CLARK (F. C.).** Commerce, for Schools, Reading Circles, and Business Men. New York: Longmans, Green & Co. 1901.
- COLSON (C.).** Cours d'économie politique. Tome I. Exposé général des phénomènes économiques. Le travail et les questions ouvrières. Paris: Guillaumin. 1901. 8vo. 10 fr.
- CONRAD (Prof. J.).** Leitfaden zum Studium der Volkswirtschaftspolitik. Jena: G. Fischer. 1901. 8vo. pp. 155. 2.80 m.
- DESSAIX (P.).** Montchrétien et l'économie politique nationale. Paris: Pedone. 1901. 8vo. pp. 128. 3 fr.
- ELY (R. T.).** Rivalry and Success in Economic Life. New York: T. Y. Crowell & Co. 1901. 35 cts.
- GIDDINGS (F. H.).** Inductive Sociology: A Syllabus of Methods, Analyses and Classifications, and Provisionally Formulated Laws. New York: Macmillan. 1901. 8vo. pp. 302. \$2.
[A collection of interesting facts and observations relating to social life, with some attempts at classification and generalization.]
- GOTTL (Priv.-Doz. Dr. F.).** Die Herrschaft des Wortes. Untersuchungen zur Kritik des nationalökonom. Denkens. Einleitende Aufsätze. Jena: G. Fischer. 1901. 8vo. pp. 229. 5 m.
- *GUYOT (Y.) et RAFFALOVICH (A.).** Dictionnaire du commerce de l'industrie et de la banque. 2 vols. Paris: Guillaumin. 1901. 8vo. 58 fr. (bound).
[The final instalment of this elaborate work has recently appeared.]
- ISSATEFF (A. A.).** Sozialpolitische Essays. Stuttgart: J. H. W. Dietz Nachf. 1901. 8vo. pp. 359. 6.50 m.
- KELLY (Edmund).** Government or Human Evolution. Part II., Individualism and Collectivism. New York: Longmans, Green & Co. 12mo. pp. 808. \$2.50.
- MARDEN (O. S.).** Economy. New York: T. Y. Crowell & Co. 1901. 35 cts.
- NICHOLSON (J. S.).** Principles of Pol. Econ. Vol. II. Part II. New York: Macmillan. 1901.
- NORIKUS (F.).** Die Organisation der Gesellschaft in Vergangenheit und Gegenwart. Stuttgart: I. Roth. 1901. 8vo. pp. 162. 1.50 m.
- REINHOLD (K. T.).** Der Weg des Geistes in den Gewerben. Grundlinien zu einer modernen Lehre von den Gewerben, insbesondere vom Handel. Leipzig: C. L. Hirschfeld. 1901. 8vo. pp. 418. 6.60 m.
[Vol. I., Arbeit und Werkzeug.]

- RIPERT (H.). *Le marquis de Mirabeau. Ses théories politiques et économiques.* Paris: Rousseau. 8vo. pp. 460. 8 fr.
- SALVADORI (Dr. Guglielmo). *La scienza economica e la teoria dell'evoluzione.* (Saggio sulle teorie economico-sociale di Herbert Spencer.) Florence: Lumachi. 1901. pp. 168.
- SCHMOLLER (Gust.). *Einige principieller Erörterungen über Werth und Preis.* Berlin: G. Reimer u. Kohn. 1901. 8vo. pp. 43. 2 m. [Aus Sitzungsber. d. preuss. Akad. d. Wissenschaften.]
- SEIGNOBOS (Ch.). *La méthode historique appliquée aux sciences sociales.* Paris: Alcan. 1901. 8vo. 6 fr.
- SNIDER (D. J.). *Social Institutions: In their Origin, Growth, and Interconnection.* Psychologically Treated. St. Louis: Sigma Publishing Co. 1901. 8vo. pp. 615. \$1.50.
[The institutions are in general the family, society, state, church, and the educative institution. The method is drawn from speculative psychology.]
- SUMNER (W. G.). *Societology: A Text-book of the Science of Society.* New York: Scribners. 1901.
- TAUBERT (C.). *Montesquieu économiste.* Paris: Pedone. 1901. 8vo. 3.50 fr.
- TRAIL (R. T.). *Sexual Physiology: A Scientific and Popular Exposition on the Fundamental Problems of Sociology.* London: Nichols. 1901. 8vo. pp. 312. 3s. 6d.
- TRENT (Wm. P.). *War and Civilization.* New York: T. Y. Crowell & Co. 1901. 35 cts.
- WOOD (S. T.). *A Primer of Political Economy.* New York: Macmillan. 1901. 12mo. pp. 149. 50 cts.
[A brief and popular exposition designed for secondary schools.]
- In Periodicals.*
- BOUVIER (E.). *La méthode mathématique en économie politique.* Rev. d'Econ. Pol., Aug., Sept.
- BRANFORD (V. V.). On the Calculation of National Resources. Journ. Stat. Soc., Sept. [An interesting attempt to measure relative national resources in physical units, material resources, mechanical and mental energy.]
- CABLIATI (A.). *La teoria di valore in Francesco Ferrara.* La Riforma Sociale, July.
- EDGEWORTH (F. Y.). Mr. Walsh on the Measurement of General Value. Econ. Journ., Sept.
- EINANDI (L.). Salvatore Cognetti di Martili. Giorn. degli Econ., July.
- FETTER (Frank A.). An American Economist. International Monthly, July, 1901. [A favorable review of Distribution of Wealth, by John B. Clark.]
- GOBBI (N.) and BONINSEGNi (P.). Il principio della convenienza economica e la scienza delle quantità. Giorn. degli Econ., July. [Two articles from each author. A discussion arising out of Boninsegni's criticism in the May number.]
- GRAZIANI (A.). Una replica del Loria ai suoi critici. Giorn. degli Econ., Aug. [A review of Loria's recent book.]
- HOXIE (R. F.). On the Empirical Method of Economic Instruction. Journ. Polit. Econ., Sept. [A method based on an elaborate enumeration and classification of the present forms and processes of the economic organization.]
- LAUGHLIN (J. L.). Economics in the Schools. Journ. Polit. Econ., June. [Economics, not of a descriptive, historical, or ethical sort, should be taught in secondary schools for "the cultivation of mental power and flexibility."]
- PARETO (V.). Le nuove teorie economiche. Giorn. degli Econ., Sept. [The advantages of the mathematical method are considered and illustrated.]
- SIMONS (S. E.). Social Decadence. Annals Amer. Acad., . . . Has an important bearing on the Malthusian doctrine of population.]
- TUTTLE (Charles A.). Clark's Distribution of Wealth. Yale Rev., Aug. ["Whether his law of distri-

bution should ultimately meet with general acceptance or not, his brilliant analyses will unques-

tionably secure for his book a permanent place in economic literature."]

II. SOCIAL QUESTIONS, LABOR AND CAPITAL.

ARBEITER-SEKRETARIAT NÜRNBERG. Haushaltungs-Rechnungen Nürnberger Arbeiter. Nürnberg: Arbeiter-Sekretariat. 1901. 8vo. pp. 141. 1.50 m.

[Ein Beitrag zur Aufhellung der Lebensverhältnisse des Nürnberger Proletariates.]

BRENTANO (L.). Die Schrecken des überwiegenden Industriestaats. Berlin: L. Simion. 1901. 8vo. pp. 58. 2 m.

[In Volkswirtschaftliche Zeitfragen, published by Volkswirtschaftliche Gesellschaft in Berlin.]

CALKINS (Raymond). Substitutes for the Saloon. Boston: Houghton, Mifflin & Co. 12mo. pp. 397. \$1.30.

FRIEDLAENDER (Bened.). Die vier Hauptrichtungen der modernen sozialen Bewegung. Berlin: S. Calvary & Co. 1901. 8vo. pp. 477. 7 m.

[Part II: Eugen Dühring's socialitäres System und Henry Georges Neophysiokratie.]

FULLER (S. D.). Charity and the Poor Law. London: Sonnenschein. 1901. 8vo. 1s.

[The author was formerly chairman of the Puddington Board of Guardians.]

GABBA (B.). Trenta anni di legislazione sociale. Turin: Bocca. 1901. 8vo. pp. 135. 31.

[An attempt to outline the broader tendencies of social legislation in different countries.]

GERVAERT (J.) et DE THUN (Vicomte H. de). Associations industrielles et commerciales. Syndicats, cartells, trusts, etc. Brussels: Bruylant. 1901. 8vo. 2 fr.

GOBBI (N.). Le società di mutuo soccorso. Milan: Società editrice libraria. 1901. 8vo. pp. 240.

[A careful account of these so-

cieties, chiefly legal and administrative; a part of the *Enciclopedia giuridica italiana*.]

HALÉVY (D.). Essais sur le mouvement ouvrier en France. Paris: Soc. nouv. de libr. 1901. 18mo. pp. 300. 3.50 fr.

HITZE (Dr. F.). Die Arbeiterfrage und die Bestrebungen zu ihrer Lösung. Nebst Anlage: Die Arbeiterfrage im Lichte der Statistik. Berlin: Germania in Komm. 1901. 8vo. pp. 254. 1 m.

HUBBARD (G. H.). The Why of Poverty. New York: The Abbey Press. 1901.

[Summarizes the principal causes of poverty among Americans in two words, waste and speculation. Waste consists (1) in the destruction of wealth, (2) in the exchange of useful for useless commodities, (3) the unproductive employment of labor in the manufacture of useless and harmful commodities.]

HUBER (Prof. F. C.). Deutschland als Industriestaat. Stuttgart: J. G. Cotta Nachf. 8vo. pp. 531. 10 m.

KOEHNÉ (Dr. C.). Die Arbeitsordnung vom Standpunkte der vergleichenden Rechtswissenschaft. Stuttgart: F. Enke. 8vo. pp. 51. 1.60 m.

[Lecture; reprinted from *Ztschr. für vergleich. Rechtswiss.*]

LUCAS (C.). Étude sur les habitations à bon marché en France et à l'étranger. Paris: Aulanier. 1900. 8vo.

[The author is an architect, and describes with drawings a great variety of workmen's dwellings.]

MEFFERT (Dr. F.). Arbeiterfrage und Sozialismus. Vorträge. Mainz: F. Kirchheim. 1901. pp. 394. 4.50 m.

MÉTIN (A.). Le socialisme sans doctrines. Paris: Felix Alcan. 1901. pp. 272. 6 fr.

- [A personal study of labor conditions and labor legislation in Australia and New Zealand, first printed by the "Office du Travail" as an official report.]
- MOLINARI (G. de). *Problèmes du XX^e siècle*. Paris: Guillaumin. 1901. 18mo. 3.50 fr.
- MÜNSTERBERG (E.). *Das ausländische Armenwesen. Uebersicht über die neueren Bestrebungen auf dem Gebiete der Armenpflege in den für uns wichtigsten Staaten des Auslands*. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 316. 7 m.
- [No. 52 in *Schriften des deutschen Vereins für Armenpflege und Wohlthätigkeit*.]
- NAOROJI (D.). *Poverty and Un-British Rule in India*. London: Sonnenschein. 1901. 8vo.
- PICHÉ (le père Émile). *Conférences sur les œuvres sociales*. Paris: Oudin. 1901. 12mo. pp. 247. 3 fr.
- RAZOUS (P.). *La sécurité du travail dans l'industrie. Moyens préventifs contre les accidents d'usines et d'ateliers*. Paris: Dunod. 1901. 8vo. pp. 379. 12.50 fr.
- SALAUN (G.). *Les retraites ouvrières en Belgique*. Paris: Rousseau. 1901. 18mo. pp. 130. 2 fr.
- [Published under the auspices of the Musée sociale.]
- SCHANZ (Prof. G.). *Dritter Beitrag zur Frage der Arbeitslosen-Versicherung und Bekämpfung der Arbeitslosigkeit*. Berlin: C. Heymann. 1901. 8vo. pp. 411. 7 m.
- STEFFEN (Gust. F.). *Studien zur Geschichte der englischen Lohnarbeiter, mit besonderer Berücksichtigung der Veränderungen ihrer Lebenshaltungen*. Stuttgart: Hobbins & Büchle. 1901. 8vo. pp. 191. 4 m.
- [Volume I, Part II.]
- STRAUSS (Sénateur P.). *Assistance sociale. Pauvres et mendiants*. Paris: Alcan. 1901. 8vo. 6 fr.
- SYKES (Dr. J. F. J.). *Public Health and Housing. The Influence of the Dwelling upon Health in Relation to the Changing Style of Habitation*. London: King. 1901. 8vo. 5s.
- TIRING (Dr. Gust.). *Die soziale Frage und das Prinzip der Solidarität*. I. Bd. *Grundlegung*. Dresden: E. Pierson. 1901. 8vo. pp. 215. 3.50 m.
- VEREIN FÜR SOCIALPOLITIK. *Untersuchungen, neue, über die Wohnungsfrage in Deutschland und im Ausland*. Leipzig: Duncker & Humblot. 1901. 8vo. 3 vols. pp. 1403. 31.20 m.
- [Volumes 1 and 2, three parts: Germany and Austria. Volume 3: Switzerland, England, France, Belgium, Russia, Norway, Sweden, Denmark, and the United States.]
- VERMEESCH (le Père). *Manuel social. La législation et les œuvres en Belgique*. Louvain: Uyst-pruyt. 1900. 8vo.
- [An inventory of the philanthropic institutions, both public and private, in Belgium.]
- WEBB (Mr. Sidney, and others). *The Case for the Factory Acts*. London: Richards. 1901. 8vo. pp. 250. 2s. 6d.
- [Five essays on Factory Legislation by as many writers, all women.]
- WYCOFF (W. A.). *A Day with a Tramp, and Other Days*. New York: Scribners. 1901. \$1.

In Periodicals.

- BARLOW (M.). *The Insurance of Industrial Risks, 1897-1901*. Econ. Journ., Sept. [The Workmen's Compensation Act of 1897 has been "most successful."]
- FRANKENBERG (H. von). *Die Versicherung Erwerbsloser*. Jahrb. f. Gesetzg., 25. Heft 3.
- GOLDSCHMIDT (O.). *Das Koalitionsrecht der Arbeiter. Ein Beitrag zur Geschichte unserer sozialpolitk. Ann. des Deutsch. Reichs*, 1901, Nos. 6 and 7.
- KENT (Rev. Alexander). *Co-operative Communities in the United States*. Bulletin of the Department of Labor, July, 1901. [A brief review of thirty-one communistic and co-operative societies,

- most of which are recent attempts.]
- LEVER (W. H.). Prosperity Sharing. *Econ. Rev.*, July. [A rejoinder to an article in the previous number.]
- LOW (A. Maurice). Labor and the Law in England. *The Forum*, Oct. [Discusses the legal status of trade unions from 1799 till 1901, and treats of the reversal in the House of Lords of the decision of the Court of Appeal in the Taff Vale Railway case, which seems to make trade unions suable.]
- MILLER (J. A.). Trade-unionism as illustrated by the Chicago Building-trades Conflict. *Journ. Polit. Econ.*, June. [Clear and forceful on the descriptive, theoretical, and legal aspects of "coercive" trade-unionism.]
- REEVES (W. P.). The Minimum Wage Law in Victoria and South Australia. *Econ. Journ.*, Sept. [A favorable sketch.]
- SYKES (J. F. J.). The Results of State Municipal and Organized Private Action on the Housing of the Working Classes. *Journ. Stat. Soc.*, July.
- TAYLOR (Benjamin). How Trade Unionism affects British Industries. *North Amer. Rev.*, Aug. [The author considers trade unions inimical to British industry.]
- TWINING (L.). Some Thoughts on the Poor Law and Poverty. *Econ. Rev.*, July.
- WAXWEILER (Prof. E.). Die belgische Lohnstatistik und die Lohngestaltung der Kohlenarbeiter 1896-1900. *Jahrb. f. Nat. Oek.*, 22, Heft 2.
- WINSTON (A. P.). The Significance of the Pullman Strike. *Journ. Polit. Econ.*, Sept. [An occasion, on the whole, for encouragement, as showing a gain in respect for law and in regard for the community.]
- WILLIAMS (Talcott). The Steel Strike. *Amer. Monthly Review of Reviews*, Sept.
- WOODRUFF (Clinton Rogers). Philadelphia Street Railway Franchises. *Amer. Journ. of Sociol.* [An account of the passage of the Focht and Emery Street Railway bills in the spring of 1901, characterized by the author "as a new and hitherto unparalleled record of franchise looting and defiance of public opinion."]

III. SOCIALISM.

- ANDLER (C.). Le manifeste communiste de Karl Marx. Introduction historique et commentaire. Paris: Société nouvelle. 1901. 16mo. 0.50 fr.
- BERTH (Ed.). Dialogues socialistes. Paris: Jacques. 1901. 18mo. pp. 319. 3.50 fr.
- BONNAUD (F.). Cabet et son œuvre. Appel à tous les socialistes. Paris: Soc. lib. d'édit. 1900. 18mo. pp. 202. 3 fr.
- BOULARD (Ed.). Intégralisme (philosophie et pratique). Études sur une organisation sociale, logique, nécessaire conforme aux lois naturelles. Paris: Société d'éditions scientifiques. 1901. 12mo. pp. 404. 4 fr.
- BOURDEAU (J.). L'évolution du socialisme. Paris: Alcan. 1901. 12mo. pp. 330. 3.50 fr.
- [A miscellaneous collection of magazine and newspaper articles.]
- FOURNIERE (E.). Essai sur l'individualisme. Paris: Alcan. 1901. 12mo. pp. 188. 2.50 fr.
- [The author, a socialist, endeavors to reconcile his system with ideals of individual liberty.]
- HIRSCH (M.). Democracy versus Socialism: A Critical Examination of Socialism as a Remedy for Social Injustice. London: Macmillan. 1901. 8vo. pp. 516. 10s.
- [The single tax is advocated.]
- *LANDRY (Adolphe). L'utilité sociale de la propriété individuelle. Paris: Société nouvelle de librairie et d'édition. 1901. pp. 487. 7.50 fr.
- [Individual ownership is opposed to the social welfare. I. In production the social income is

diminished, that the income of capitalists may be increased; II. In distribution, goods are not consumed by those to whom they have the greatest utility.]

NOSSIG (Dr. Alfrd.). Revision des Socialismus. Vol. I. Das System des Socialismus. Berlin: Akad. Verlag f. Sociale Wissenschaften. 1901. 8vo. pp. 318. 4 m.

PREIXOTTO (Jessica B.). The French Revolution and Modern French Socialism. New York: T. Y. Crowell & Co. 1901. \$1.50.

RIGNANO (E.). Di un socialismo in accordo colla dottrina economica liberale. Turin: Bocca. 1901.

[The author favors appropriation by the State of property two or three generations after its acquisition.]

SARRANTE (J.). Socialisme d'opposition, socialisme de gouvernement et lutte de classe. Paris: Jacques. 1901. 18mo.

[Maintains that the alliance of socialism with the bourgeoisie is momentarily necessary.]

In Periodicals.

BLUNT (H. W.). The Case for Private Property. Econ. Rev., July.

IV. LAND.

CADOLINI (G.). Il bonificamento dell'agro romano. Rome: Unione Cooperativa. pp. 372. 2.50 l.

[Based largely on material collected by a commission of the Società degli Agricoltori Italiani.]

COLETTI (F.). Le associazione agraria in Italia dalla metà del secolo decimottavo alla fine del decimonono. Rome: Unione Cooperativa. 1901. pp. 147.

GERNET (A. von). Geschichte und System des bauerlichen Agrarrechts in Estland. Reval: F. Kluge in Komm. 1901. 4to. pp. 450. 10 m.

HAGUET (L.). Des chambres d'agriculture. Paris: Rousseau. 1901. 8vo. pp. 125. 2.50 fr.

LORENZONI (G.). La cooperazione agraria nella Germania moderna. Vol. I. Le varie forme della cooperazione. Trent: Soc. Tip. edit. trentina. 1901.

[A valuable treatise.]

MEITZEN (Prof. Aug.). Der Boden und die landwirtschaftlichen Verhältnisse des preussischen Staates. 6th volume. Berlin: P. Parey. 1901. 4to. pp. 1300. 24 m.

OESTERREICHISCHES FINANZ-MINISTERIUM. Ergebnisse der Cata-

tral-Revision auf Grund des Gesetzes vom 12. VII. 1896. 2 volumes. Vienna: Hof- und Staatsdruckerel. 1901. 4to. pp. 1199. 24 m. and 8 m.]

OESTERREICHISCHES ACKERBAU-MINISTERIUM. Auszug, systematischer, aus den Ausserungen der Commissionsmitglieder und Experten, A. zu den Fragen betreffend die Reform des börsenmässigen Terminhandels mit landwirtschaftlichen Erzeugnissen; B. zu einzelnen speciellen Fragen. Vienna: W. Frick in Komm. 8vo. pp. 274. 4 m.

In Periodicals.

BURGHARDT DU BOIS (W. E.). The Negro Landholder of Georgia. Bulletin of the Department of Labor, July, 1901. [A detailed statistical account of the growth of negro land-holdings in Georgia, which now amount to over a million acres.]

LEISEWITZ (Prof. C.). Die landwirtschaftliche Produktion im Deutschen Reich und ihr Verhältnis zum Stande des bezüglichen inländischen Bedarfs. Jahrb. f. Nat. Oak., 22, Heft 2.

V. POPULATION, EMIGRATION, AND COLONIES.

- BLANC (A.). L'immigration en France et le travail national. Lyon: Rey. 1901. 8vo. pp. 194.
- CHATELAIN (C.). L'Afrique et l'expansion coloniale. Paris: Charles-Lavanzelle. 1901. 8vo. pp. 296. 5 fr.
- IRELAND. Tropical Colonization. New York: Macmillan. 1901.
- RACT (l'abbé C.). Natalité. Préface de G. Fonsegrive. Paris: Poussielgue. 1901. 8vo. pp. 416. 4 fr.
- UNSIGNED. Annuaire agricole, commercial, et industriel des colonies françaises. Paris: Challamel. 1901. 8vo. 7 fr.
- Congrès international de sociologie coloniale tenu à Paris du 6 au 11 Aout 1900. 2 vols. Paris: Rousseau. 1901. 8vo. 20 fr.

In Periodicals.

- GILLETTE (J. M.). The Culture Agencies of a Typical Manufacturing Group: South Chicago. Amer. Journ. of Sociol., I and II., July and Sept. [A study of a manufacturing community covering twenty-four voting precincts. The first chapter deals with the physical, racial, social, and economic conditions, the second with the religious, educational, aesthetic, recreative, and other agencies.]
- HOOKE (R. H.). Correlation of the Marriage Rate with Trade. Journ. Stat. Soc., Sept.

VI. TRANSPORTATION AND EXCHANGE.

- FOCHIER (E.). L'exploitation des chemins de fer par l'état en Allemagne. Paris: Giard et Brière. 1901. 8vo. 5 fr.
- LA RONCIÈRE (C. de). Histoire de la marine française. 2 vols. I. Les origines. II. La guerre de cent ans. Révolution maritime. Paris: Plon-Nourrit. 1901. 8vo. 8 fr. per vol.
- [Awarded the Grand Prix Gobert by the Académie.]
- MONTILLE (L. B. de). Les finances publiques et les compagnies de chemins de fer (thèse). Paris: Giard et Brière. 8vo. 3 fr.
- UNSIGNED. The Port of Manchester. Manchester: Hind, Hoyle & Light. 1901.
- [An illustrative history of the Manchester Ship Canal.]
- In Periodicals.*
- BALTZER. Die japanischen Eisenbahnen. Archiv f. Eisenbahnw., Heft 3.
- GINSBURG (B. W.). Shipping Subsidies. Journ. Stat. Soc., Sept.
- LOSCH (Finanzrat Dr. H.). Zur württembergischen Eisenbahn- und Steuerepolitik. Zeitschr. ges. Staatsw., 57, Heft 3.
- MCLEAN (S. J.). Railway Policy of Canada, 1849 to 1867, II. Journ. Polit. Econ., June. [A period of difficulty and speculation followed by a period of rest. Continued from the March number.]
- NEWCOMB (H. T.). The Recent Great Railway Combinations. Amer. Monthly Review of Reviews, Aug.
- SIEVEKING (H.). Die österreichischen Bahnprojekte. Jahrb. f. Gesetzg., 25, Heft 3.
- TAYLOR (B.). The Maritime Expansion of America. Fortnightly, July.
- TWEEDIE (A.). The Isthmus of Tehuantepec Railway. Fortnightly, Aug.

VII. INTERNATIONAL TRADE AND CUSTOMS LAWS.

- ADAMS (Brooks). *America's Economic Supremacy*. New York: Macmillan. 1901.
- BEAUMONT (G.). *L'industrie cotonnière en Normandie. Son histoire sous les différents régimes douaniers*. Paris: Rousseau. 1901. Svo. pp. 216. 6 fr.
- BLIND (Prof. Aug.). *Moderne Handels- und Verkehrsgeographie unter besonderer Berücksichtigung der Handelswege und Verkehrsmittel der Gegenwart*. Leipzig: L. Hubertl. 1901. Svo. pp. 160. 2.75 m.
- DIEHL (Prof. Karl). *Kornzoll und Sozialreform*. Jena: G. Fischer. Svo. pp. 57. 1.20 m.
[A reply to Dietzel's *Kornzoll und Sozialreform*.]
- ETIENNE (Dr. A.). *Zur Frage des handelspolitischen Systems*. Berlin: J. Guttentag. 1901. Svo. pp. 63. 1.20 m.
- GOTHEIN (Geo.). *Der deutsche Aussenhandel. Materialien und Betrachtungen*. II. Hälfte, 1 Thl. Berlin: Siemenroth & Troschel. 1901. Svo. pp. 245. 6 m.
- HAAKE (Dr. Heinr.). *Handel und Industrie der Provinz Sachsen 1889-99 unter dem Einfluss der deutschen Handelspolitik*. Stuttgart: J. G. Cotta Nachf. 1901. Svo. pp. 162. 4 m.
[In *Münchener volkswirtschaftliche Studien*.]
- HELFFERICH (Karl). *Handelspolitik*. Leipzig: Duncker & Humblot. 1901. Svo. pp. 213. 4.60 m.
[Vorträge.]
- NEUBAUER (Dr. Paul). *Die Stellung Chinas im Welthandel im Jahre 1900*. Berlin: W. Süsserott. 1901. Svo. pp. 55. 1.50 m.
- PAISANT (R.). *L'admission temporaire des blés et les bons d'importation en France et en Allemagne*. Paris: Rousseau. 1901. Svo. pp. 290. 5 fr.
[The author favors the adoption in France of a system analogous to that of Germany.]
- SARBAUT (M.). *Le problème de la marine marchande*. Préface de M. Édouard Lockroy. Paris: Berger-Levrault. 1901. Svo. pp. 426. 6 fr.
- TESSO (A.). *L'Italia e l'Oriente: Studi di politica commerciale*. Turin: Unione tip.-edit. 1901. Svo. pp. 513.
[Crowned by the Royal Institute. The author favors an active colonial policy for Italy.]
- VEREIN FÜR SOCIALPOLITIK. *Beiträge zur neuesten Handelspolitik Deutschlands*. 3 Bd. Leipzig: Duncker & Humblot. 1901. Svo. pp. 225. 4.80 m.
—, *Beiträge zur neuesten Handelspolitik Oesterreichs*. Leipzig: Duncker & Humblot. Svo. pp. 323. 6.80 m.
[Vol. 93 in *Schriften des Vereins für Socialpolitik*.]
- WAGNER (Prof. A.). *Agrar- und Industriestaat. Eine Auseinandersetzung mit den Nationalsozialen und mit Professor L. Brentano über die Kehrseite des Industriestaates und zur Rechtfertigung agrarischen Zollschatzes*. Jena: G. Fischer. 1901. Svo. pp. 96. 1 m.
- WOLF (Prof. Jul.). *Das Deutsche Reich und der Weltmarkt*. Jena: G. Fischer. Svo. pp. 85. 2 m.

In Periodicals.

- ADAMS (Brooks). *Reciprocity or the Alternative*. *Atlantic Monthly*, Aug. [Argues that, in order to maintain its industrial supremacy, the United States must either make treaties of reciprocity with other nations or prepare for war.]
- BULLOCK (C. J.). *The Theory of the Balance of Trade*. *North Amer. Rev.*, July. [Treats historically the theory of the balance of trade from the time of the mercantilists to the present.]
- CROWELL (J. F.). *American Primacy in Iron and Steel Production*. *International Monthly*, Aug. [Shows that superficially this pri-

- macy makes for war, but at heart is the basis of international peace.]
- JOHNSON (Joseph French). Our Foreign Trade and Prosperity. North Amer. Rev., July.
- MORGAN-BROWNE (H.). Is England falling into Economic Decay? Contemporary, October. [Optimistic.]
- SCHOENHOF (Jacob). The German Tariff Proposals. Whom will they Affect? Forum, Sept. ["The tariff measures proposed by the German Reichsrath can in no way inflict a very serious injury upon American interests . . . or upon the interests of any foreign state. . . . But their enactment would be a most cruel infliction upon the German people for the sole benefit of 300,000 land-holders."]
- TAYLOR (Benjamin). Commercial Position of the British Empire. Forum, Sept. [Purports to show that 40 per cent. of the commerce of the world is possessed by the British Empire, and that trade follows the flag.]
- UNSIGNED. Is Great Britain living on its Capital? Contemporary, July. [A criticism of the arguments of Sir Robert Giffen and H. M. Browne.]
- The Economic Decay of England, III. Contemporary, Aug. [I. and II. appeared in May and June.]
- Statistiska meddelanden. Ekonomisk Tidskrift, Arg. III., Heft 9. [A tabulated statement of the most important imports and exports of Sweden during the months Jan. - July, 1900. The first summary of the kind to appear in the Ekonomisk Tidskrift. Others are announced to follow from time to time.]

VIII. MONEY, BANKING, CREDIT, AND PRICES.

- ANDRÉADES (A.). Essai sur la fondation et l'histoire de la Banque d'Angleterre (1694-1844). Paris: Rousseau. 1901. 8vo. pp. 376. [Traces the history of the Bank of England down to Peel's act.]
- DUGUID (C.). Story of the Stock Exchange: Its History and Position. Illustrated. London: Richards. 1901. 8vo. pp. 476. 6s.
- GHISLAIN (O.). La comptabilité industrielle théorique et pratique. Namur: Godenne. 1901. 8vo. 3.50 fr.
- LAHAYE (P. L.). Recherches sur les chambres de compensation (Clearing-houses). Création, organisation, et développement en France, Angleterre, Allemagne, Autriche, Italie, Australie, au Japon, et en Amérique. Caen: 1901. 8vo.
- LAVAUD (E.). Les chèques (thèse). Paris: Rousseau. 1901. 8vo. 5 fr.
- SAMEL (M.). Sociétés de crédit contre banques locales. Paris: Rousseau. 1901. 8vo pp. 245. 6 fr.
- VERNET (A.). Étude théorique et pratique des Comptes-courants et d'intérêts. Paris: Guillaumin. 1901. 8vo. pp. 272. 5 fr.
- WARREN (H.). Your Banker's Position at a Glance. London: Jordan. 1901. 8vo. pp. 338. 5s. [Contains much unrestrained criticism of English banking methods.]
- In Periodicals.*
- DUNKER (Dr. R.). Goldersparende Zahlungsmethoden in dem heutigen Bankverkehr Deutschlands. Ann. des Deutsch. Reichs. No. 6. (Concluded.)
- FRIEND (E.). The Paris Bourse. Forum, Oct. [A popular description and history of the Paris Bourse.]
- GELLENDER (E. E.). Economic Effects of Bankers' Advances. Econ. Journ., Sept.
- GOLDSCHMIDT (Justizrat Dr. Jullan). Zur Kritik der deutschen Hypothekenbanken. Jahrb. f. Gesetzg., 25, Heft 3.
- HOOPER (W.). The Recent Gold Production of the World. Journ.

- Stat. Soc., Sept. [During the last twenty years.]
- RICHTER (Dr. F.). Studien über die Diskontpolitik der Zentralnotenbanken unter näherer Berücksichtigung der Bank von England, Bank von Frankreich, und Reichsbank. Ann. des Deutsch. Reichs, 1901, Nos. 6, 7, and 8.
- ROBERTS (Geo. E.). Influence of the New Supplies of Gold. North Amer. Rev., Aug. ["Speaking broadly, it seems safe to say that present conditions and probabilities favor the owner of real estate, fixed property, and commodities, as against the owner of money and securities which yield a fixed return."]
- SCHMOLLER (G.). Stimmel's Philosophie des Geldes. Jahrb. f. Gesetzg., 25. Heft 3.
- WOLFF (H. W.). The Coming Savings Banks Inquiry. Econ. Rev., July.

IX. FINANCE AND TAXATION.

- BERGMANN (Rob.). Geschichte der ostpreussischen Stände und Steuern von 1688 bis 1704. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 226. 5 m.
[In Schmoller's Staats- und sozialwissenschaftliche Forschungen.]
- BUXTON (S.). Mr. Gladstone as Chancellor of the Exchequer. London: Murray. 1901. 8vo. pp. 206. 5s.
- CALKER (Dr. Wilh. von). Das badische Budgetrecht in seinen Grundzügen. 1 Thl. Geschichtliche Entwicklung. Tübingen: J. C. B. Mohr. 1901. 8vo. pp. 275. 6 m.
- COLAJANNI (N.). Per la economia nazionale e per il dazio sul grano. Rome: Artero. 1901.
- DOMINGUEZ (J.). La question des octrois et notamment celle des droits municipaux sur les boissons hygiéniques (thèse). Paris: Delmar. 1901. 8vo. pp. 216.
[A severe criticism of the octroi system.]
- FAIRLIE (J. A.). Municipal Administration. New York: Macmillan. 1901.
[Part III. is on municipal finance.]
- IL BILANCIO DEL REGNO D' ITALIA NEGLI ESERCIZI FINANZIARI DAL 1862 AL 1899-1900. Rome: Bertero. 1901.
[A valuable government report.]
- SALEFRANQUE (L.). La propriété foncière devant l'impôt en France et dans les principaux pays de l'Europe. Paris: Roustan. 1901. 8vo. pp. 130. 2.50 fr.
- WAGNER (Adolph). Specielle Steuerlehre: Baden, Hessen, Elsaß-Lothringen, Mecklenburg, Sämtliche Kleinstaaten, Deutsches Reich. Leipzig: C. F. Winter. 1901. 8vo. pp. 630. 15 m.
[IV. Hauptabth., 4 Thl., II. Halbbd. in the author's Finanzwissenschaft.]
- WEISS (L.). L'exploitation des mines par l'état. Mines fiscales de la Prusse et régime minier français. Paris: Rousseau. 1901. 8vo. pp. 118.
- WIESER (Prof. von). Die Ergebnisse und die Aussichten der Personaleinkommensteuer in Oesterreich. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 150. 3.20 m.
- ZEDLITZ UND NEUKIRCH (Freiherr von). Dreissig Jahre preussischer Finanz- und Steuerpolitik. Berlin: E. S. Mittler & Son. 1901. 8vo. pp. 127. 2.40 m.

In Periodicals.

- BONTELL (H. S.). Our National Debt. Forum, Oct. [Traces the history of the national debt.]
- BULLOCK (Chas. J.). Direct Taxes and the Federal Constitution, III. Yale Rev., Aug. [The decision of the Supreme Court in 1796 "surely accorded with the intention of the framers of the

- Constitution in that it assured to Congress all needed powers of taxation." And in the absence of any accepted definition or classification it established criteria of direct and indirect taxation.
- COLER (Bird S.). Financial Problems of a Great City. *North Amer. Rev.*, Oct. [Discusses the financial problems of the city of New York.]
- COX (Harold). The Public Debt of Great Britain. *North Amer. Rev.*, Sept.
- ROW-FOGO (J.). Local Taxation in Germany. *Econ. Journ.*, Sept.
- REHM (Dr. H.). Das Budgetrecht des bayerischen Landtages. *Ann. des Deutsch. Reichs*, 1901, No. 9.
- SANGER (C. P.). The Report of the Local Taxation Commission. *Econ. Journ.*, Sept. [A useful summary of the work of the Royal Commission.]
- SIKES (G. C.). Public Policy concerning Franchise Values: A Problem in Taxation. *Journ. Polit. Econ.*, Sept. [Reduce the charges instead of imposing an unwise and inequitable tax upon the patrons of the public service corporations.]
- SOYEDA (J.). Japanese Finance and Economy. *Econ. Journ.*, Sept. [Retrenchment of expenditure and the need for industrial capital emphasized.]
- TANGORRA (V.). La finanza italiana dal 1862 al 1900. *Giorn. degli Econ.*, July. [An analysis of the report noted above.]
- TRUCHY (H.). Le système des impôts directs d'état en France. *Rev. d'Econ. Pol.*, Dec., 1900 and Mar., Apr., May, and June, 1901.
- WATKINS (Albert). The Outlook for Public Ownership. *Forum*, Oct. [A hopeful view of the ability of government to undertake public enterprises.]
- UNSIGNED. Statistik rörande inkomst-beskattningen i Sachsen 1879 och 1900. *Ekonomisk Tidskrift*, Arg. III., Häft 9.

X. HISTORY, BIOGRAPHY, AND DESCRIPTION.

- BLONDEL (E.). La France et le marché du monde. Paris: Larose. 12mo. pp. 162. 2.50 fr. [A sober analysis of the reasons for the stationary condition of French commerce.]
- CARABELLESE (E.). Il sorgere del comune marittimo pugliese nel medio evo. Bari. 1901.
- CHARLES-ROUX (J.). L'Isthme et le canal de Suez. Historique état actuel. 2 vols. Paris: Hachette. 1901. [An elaborate work, containing 12 maps and several hundred engravings.]
- FAGUET (É.). L'œuvre sociale de la Révolution française. Paris: Fontemoing. 1901. 8vo. pp. 400. 5 fr. [M. Faguet furnishes the introduction to a series of chapters by various writers upon such subjects as socialism during the revolutionary period, landed property, the national education, etc.]
- GOGITSCHAYSCHWILI (Dr. Phillip). Das Gewerbe in Georgien unter besonderer Berücksichtigung der primitiven Betriebsformen. Tübingen: H. Laupp. 1901. 8vo. pp. 132. 3.60 m. (to subscribers 2.80 m.) [Supplement to Zeitschrift für die gesammte Staatswissenschaft.]
- GRUNZEL (Dr. Jos.). System der Handelspolitik. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 623. 13 m.
- GUIGON (C. A.). Le Thé. Manuel du producteur et de l'importateur. Histoire, pays producteurs, statistiques, etc. Paris: Chalmel. 1901. 8vo. 7 fr.
- INAMA-STERNEGG (Prof. K. T.). Deutsche Wirtschaftsgeschichte in den letzten Jahrhunderten des Mittelalters. 2 Thl. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 577. 14.00 m.
- LE COINTE (A.). Inventaire des institutions économiques et sociales

- de la Suisse à la fin du XIX^e siècle. Geneva: Romet. 1900. 4to. pp. 424.
- OESTERREICHISCHES GENERAL-COMMISSARIAT. Diverse Industrien. Vienna: C. Gerold's Sohn. 4to. pp. 69 and illustrations. 2 m. [No. 11 in *Berichte über die Weltausstellung in Paris, 1900.*]
- Hüttenwesen, landwirtschaftliche Maschinen, Petroleum. Vienna: C. Gerold's Sohn. 1901. 4to. pp. 60 and illustrations. 2 m. [No. 4 in *Berichte über die Weltausstellung in Paris, 1900.*]
- PARISSET (M. E.). Histoire de la fabrique lyonnaise. Étude sur le régime social et économique de l'industrie de la soie à Lyon depuis le XVI^e siècle. Lyon: Rey. 1901. 8vo.
- PESTALOZZA (N.). La vita economica atenesa dalla fine del secolo VII alla fine del IV secolo avanti Cristo. Milan: Cogliati. 1901.
- PRICE (L. L.). A Short History of British Commerce and Industry. New York: Longmans, Green & Co. 1901. \$1.25.
- ROBERTS (P.). The Anthracite Coal Industry. New York: Macmillan. 1901.
- SCHWAB (J. C.). The Confederate States of America. A Financial and Industrial History of the South during the Civil War. New York: Scribners. 8vo. pp. 332. \$2.50.
- [A careful and judicious summary of the policies and measures relating to revenue, currency, and banking, and of the conditions of industry, trade, speculation, and prices.]
- TANGORRA (V.). Saggi critici di economia politica. Rome: Bocca. 1901. 8vo. pp. 223.
- [Essays on Ortes, Machiavelli, and Ferrara, and on method.]
- VAHLEZ (L.). Les salaires de l'industrie gantoise. I. L'industrie cotonnière. Brussels: Lebegue et Schepens. 1901. 8vo. pp. 600. 8 fr.
- [An exhaustive investigation made under the direction of the Belgian minister of industry and labor.]
- WIRTH (Dr. Albr.). Die Entwicklung Russlands. Berlin: Gose & Tetzlaff. 1901. 8vo. pp. 34. 1 m.
- WRIGHT (Marie R.). The New Brazil: Its Resources and Attractions, Historical, Descriptive, and Industrial. Illustrated. Philadelphia: Geo. Barrie & Son. 1901. 4to. pp. 450.
- [A description of the trade and commerce, the undeveloped resources, and the opportunities for colonization.]
- In Periodicals.*
- ELLIS (Leonora). A Model Factory Town. Forum, Sept. [Describes the community of Pelzer, Anderson Co., So. Carolina.]
- FELLS (J. M.). British Salt Trade in the Nineteenth Century. Econ. Journ., Sept.
- GIDDINGS (F. H.). A History of the English Poor Law. International Monthly, Oct. [A review of "A History of the English Poor Law" by Sir G. Nicholls.]
- KATSCHER (L.). A Bibliographical Discovery in Political Economy. Journ. Polit. Econ., June. [A somewhat extended account of an anonymous French work, in three volumes, of the year 1723.]
- LAGERCRANTZ (Otto). Det egyptiska skatte- och finansväsendet under den grekisk-romerska tiden. Ekonomisk Tidskrift, Arg. III., Häft 9. [A summary of Wilckens's researches.]
- LAPHAM (E. C.). The Industrial Status of Women in Elizabethan England. Journ. Polit. Econ., Sept. [A permanent impulse "to earn a foothold" gained.]
- LEVASSEUR (P. E.). Les périodes de l'histoire des classes ouvrières en France. Rev. Internat. de Sociol., Vol. 9, pp. 321-352.
- MACHRAY (R.). The Financial Condition of Japan. Monthly Rev., Oct. [Conclusion favorable, but foreign capital is needed.]
- PRUTZ (H.). The Economic Development of Western Europe under the Influence of the Crusades. International Monthly, August.
- RABINO (J.). An Economist's Notes on Persia. Journ. Stat. Soc., July.

REYS-DAVIS (C. A. F.). Economic Conditions in Ancient India. Econ. Journ., Sept.

ROHÉ (Dr. H.). Das kaufmännische Auskunftswesen. Seine Entwicklung und seine Beziehungen zu Kaufmannschaft und Behörden. Ann. des Deutsch. Reichs, 1901, Nos. 8, 9, and 10.

STRÖLL (Dr. Moriz). Ueber südost-europäische Staats- und Volks-

wirtschaft. Jahrb. f. Gesetzg., 25, Heft 3.

WERGELAND (A. M.). Slavery in Germanic Society during the Middle Ages, II. Journ. Polit. Econ., June. [Amelioration through the influence of the king, the church, and "economic and political changes." Continued from the Dec. number.]

XI. STATISTICS.

TIVARONI (J.). Patrimonio e reddito di alcune nazioni civili. Turin: Roux e Viarenzo. 1901.

[The distribution of wealth among various social classes and the total wealth of various countries are considered.]

In Periodicals.

BAINES (A. J.). The Indian Census. Journ. Stat. Soc., July.

—. Census Notes. Journ. Stat. Soc., Sept. [Comparisons of the recent census returns from various countries.]

COMMISSIONER OF LABOR. Statistics of Cities. Bulletin of the Department of Labor, Sept. [The third annual report of the Commissioner of Labor on the statistics of the 135 cities in the United States having a population of over 30,000. Statistics of Honolulu, H.I., are also added in a separate table.]

GIFFEN (Sir R.). The Importance of General Statistical Ideas. Journ. Stat. Soc., Sept. [An examination of certain problems suggested by statistics of population. Address to the economic and statistics section of the British Association, 1901.]

—. The Expenditure of National Capital. Journ. Inst. of Bankers. June. [Conclusion that England is not "living on its capital." Expenditure for armaments and war usually comes from income rather than capital.]

HAYWARD (T. E.). On the Methods Available for Calculating Mean Numbers of Population. Journ. Stat. Soc., Sept.

WATERS (A. C.). A Method of Estimating Mean Populations in the Last Intercensal Period. Journ. Stat. Soc., July.

WILLOUGHBY (William F.). The Measure of Unemployment: A Statistical Study. Yale Rev., Aug. [As a measure of industrial conditions, statistics of employment and unemployment would be of great advantage; but statistics obtained through "special investigations" and through "census inquiries" have been thus far of little value.]

ZIMMERMANN (Finanzrat F. W. R.). Lässt sich die zukünftige Bevölkerungsentwicklung für ein bestimmtes Gebiet mathematisch formulieren? Jahrb. f. Gesetzg., 25, Heft 3.

XII. REPRINTS, TRANSLATIONS, AND NEW EDITIONS.

BERNSTEIN (E.). Socialisme théorique et socialdémocratie pratique. Traduction d'A. Cohen. Paris: Stock. 1901. 12mo. 3.50 fr.

BUCHER (Carl). Industrial Evolu-

tion. Translated from the third German edition by S. Morley Wickett. New York: Henry Holt. 1901. 8vo. pp. 393.

[An excellent translation of a

- work which interprets industrial history in the light of economic theory.]
- COLAJANNI (N.). *Le socialisme*. Traduit, revue, et augmentée par M. Tochello. Avec un préface de G. Sorel. Paris: Giard et Brière. 1901. 12mo. pp. 418. 3.50 fr.
- D'EICHTHAL (E.). *Socialisme, communisme, et collectivisme*. Aperçu de l'histoire et des doctrines jusqu'à nos jours. Paris: Guillaumin. 1901. 18mo. pp. 325. 3.50 fr.
- [*"Revue et augmentée."*]
- FRANKLIN (J.). *Selections from the Works of Fourier*. London: Sonnenschein. 1901. 8vo.
- GUYOT (Y.). *The Sugar Question in 1901*. Preface by Sir Neville Lubbock. London: Rees. 1901. 8vo. pp. 148. 3s.
- HIBSH (Hugo). *Tabulated Digest of the Divorce Laws of the United States*. New York: Funk & Wagnalls.
- [*Chart, 44 x 28 inches, showing the causes for which divorce is granted in the various States.*]
- JELLINEK (George). *The Declaration of the Rights of Man and of Citizens*. Authorized Translation from the German by Max Farrand. New York: Henry Holt & Co. 1901. 12mo. pp. 98.
- KROPOTKIN (Prince). *Fields, Factories, and Workshops; or, Industry combined with Agriculture and Brain Work with Manual Work*. (Second edition, revised.) Putnam. 1901.
- LE PLAY (F.). *La Méthode sociale (abrégé des Ouvriers européens)*. Paris: Dentier. 1901. 8vo. pp. 648. 10 fr.
- , *La Réforme sociale en France*. Paris: Dentier. 1901. 18mo. pp. 530, 507, 687. 6 fr.
- LEBOY-BEAULIEU (Pierre). *Les nouvelles sociétés Anglo-Saxonnes (Australie et Nouvelle Zélande, Afrique du Sud)*. Paris: Collin. 1901. 18mo. 4 fr.
- [*"Entièrement refondue."*]
- LORIA (Achille). *Die Soziologie. Ihre Aufgabe, ihre Schulen, und ihre neuesten Fortschritte*. Jena: G. Fischer. 1901. 8vo. pp. 116. 1 m.
- [*Lectures, translated from the Italian by Dr. Clem. Heisz.*]
- MARX (K.). *Le Capital*. Vol. III. *Le procès d'ensemble de la production capitaliste*. Traduit par Julian Borchardt et Hippolyte Vanderryd. Paris: Giard et Brière. 1901. 8vo. 10 fr.
- RAE (John). *Contemporary Socialism*. New and enlarged edition. New York: Scribners. 1901. 8vo. pp. 555. \$2.50.
- [*A valuable chapter on "Socialism from 1891 to 1900" is added to the first edition.*]
- ROGERS (J. E. T.). *History of Agriculture and Prices*. Vols. VII. and VIII. Oxford Univ. Press. 1901.

XIII. NOT CLASSIFIED.

- ADAMS (C. D.). *A Handbook of Commercial Geography, for the Merchant, Manufacturer, Importer, Exporter, and Business Man*. New York: Appletons. 1901. 8vo. pp. 505. \$1.40.
- [*The descriptive matter is adequate, but the economic explanations are often superficial and even unsound.*]
- BROOKS (R. C.). *A Bibliography of Municipal Problems and City Conditions*. New York: Reform Club. 1901.
- CLARK (J. B.). *The Control of Trusts*. New York: Macmillan. 1901.
- [*Announced.*]
- COAN (T. M. and others). *America's Race Problems*. Addresses at the annual meeting of the Am. Acad. of Pol. and Soc. Sci. in Phila., 1901. New York: McClure, Phillips & Co. 1901. \$1.50.
- [*Part I. Descriptive matter relating to the races of the Pacific. Part II. The Causes of Race Superiority by E. A. Ross. Part III.*]

The Race Problem at the South. Part IV. The Races of the West Indies.]

HOOPEE (E.). and GRAHAM (J.). Commercial Education at Home and Abroad. London: Macmillan. 1901. 8vo. pp. 284. 6s.

[A handbook of material with suggested curricula for schools of all grades.]

KNÜPPER (Dr. E.). Die Gewinnquellen der Lebensversicherung, dargestellt und kritisch beleuchtet vom Standpunkte des Volkswirtes. Frankfurt a. M. E. Schnapper. 1901. 8vo. pp. 131. 3 m.

MASTERMAN (C. F. G. and others). The Heart of the Empire: Discussions of Modern City Life in England. London: Unwin. 1901. 8vo.

[A series of essays by several young writers, somewhat radical in tone, but written from first-hand knowledge.]

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